

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS

(NOTES omitted)

INSTRUMENTS

G01 MEASURING; TESTING

(NOTES omitted)

G01N INVESTIGATING OR ANALYSING MATERIALS BY DETERMINING THEIR CHEMICAL OR PHYSICAL PROPERTIES (measuring or testing processes other than immunoassay, involving enzymes or microorganisms [C12M](#), [C12Q](#))

NOTES

- In this subclass, the following terms are used with the meanings indicated :
 - "investigating" means testing or determining;
 - "materials" includes solid, liquid or gaseous media, e.g. the atmosphere.
- Attention is drawn to the Notes following the title of class [G01](#).
- Investigating the properties of materials, specially adapted for use in processes covered by subclass [B23K](#), is classified in group [B23K 31/12](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00	Sampling; Preparing specimens for investigation	2001/1006	. . . . {Dispersed solids}
2001/002	. {Devices for supplying or distributing samples to an analysing apparatus}	2001/1012	. . . . {Suspensions}
2001/005	. . {Packages for mailing or similar transport of samples}	2001/1018	. . . . . {Gas suspensions; Fluidised beds}
2001/007	. . {Devices specially adapted for forensic samples, e.g. tamper-proofing, sample tracking}	2001/1025	. . . . . {Liquid suspensions; Slurries; Mud; Sludge}
1/02	. Devices for withdrawing samples {(sampling of foundation soil E02D 1/04 ; collecting or conveying radioactive samples G01T 7/00 , e.g. G01T 7/02 , G01T 7/08)}	2001/1031	. . . . {Sampling from special places}
2001/021	. . {Correlating sampling sites with geographical information, e.g. GPS}	2001/1037	. . . . {from an enclosure (hazardous waste, radioactive)}
2001/022	. . {sampling for security purposes, e.g. contraband, warfare agents}	2001/1043	. . . . {from sewers}
2001/024	. . . . {passengers or luggage}	2001/105	. . . . {from high-pressure reactors or lines}
2001/025	. . . . {postal items}	2001/1056	. . . . {Disposable (single-use) samplers}
2001/027	. . . . {field kits / quick test kits}	2001/1062	. . . . {Sampling under constant temperature, pressure, or the like}
2001/028	. . {Sampling from a surface, swabbing, vaporising}	2001/1068	. . . . {Cooling sample below melting point}
1/04	. . in the solid state, e.g. by cutting	2001/1075	. . . . {Trapping evaporated liquids by cooling}
2001/045	. . . . {Laser ablation; Microwave vaporisation}	2001/1081	. . . . {Storing samples under refrigeration}
1/06	. . . . providing a thin slice, e.g. microtome	2001/1087	. . . . {Categories of sampling}
2001/061	. . . . . {Blade details}	2001/1093	. . . . {Composite sampling; Cumulative sampling}
2001/063	. . . . . {with sawing action}	1/12	. . . . Dippers; Dredgers
2001/065	. . . . . {Drive details}	1/125	. . . . . {adapted for sampling molten metals}
2001/066	. . . . . {electric}	1/14	. . . . Suction devices, e.g. pumps; Ejector devices
2001/068	. . . . . {Illumination means}	1/1409	. . . . . {adapted for sampling molten metals}
1/08	. . . involving an extracting tool, e.g. core bit	2001/1418	. . . . . {Depression, aspiration}
2001/085	. . . . . {Grabs}	2001/1427	. . . . . {Positive displacement, piston, peristaltic}
1/10	. . in the liquid or fluent state {(burettes, pipettes B01L 3/02 ; sampling of ground water E02D 1/06 ; metering by volume of fluids or fluent solid material G01F 11/00 , G01F 13/00)}	2001/1436	. . . . . {Ejector}
		2001/1445	. . . . . {Overpressure, pressurisation at sampling point}
		2001/1454	. . . . . {Positive displacement, piston}
		2001/1463	. . . . . {Injector; Air-lift}
		2001/1472	. . . . . {Devices not actuated by pressure difference}
		2001/1481	. . . . . {Archimedian screw; Auger}

G01N

- 2001/149 {Capillaries; Sponges}
- 1/16 . . . with provision for intake at several levels
([G01N 1/2035](#)) [G01N 1/12](#), [G01N 1/14](#) take precedence)
- 1/18 . . . with provision for splitting samples into portions ([G01N 1/12](#), [G01N 1/14](#) take precedence; fraction-collection apparatus for chromatography [B01D 15/08](#))
- 2001/185 {Conveyor of containers successively filled}
- 1/20 . . . for flowing or falling materials
([G01N 1/2035](#)) [G01N 1/12](#), [G01N 1/14](#) take precedence)
- 2001/2007 {Flow conveyors}
- 2001/2014 {Pneumatic conveyors}
- 2001/2021 {falling under gravity}
- 2001/2028 {Belts}
- 1/2035 {by deviating part of a fluid stream, e.g. by drawing-off or tapping}
- 1/2042 {using a piston actuated by the pressure of the liquid to be sampled}
- 2001/205 {using a valve}
- 2001/2057 {Sample chamber in a valve/piston}
- 2001/2064 {using a by-pass loop}
- 2001/2071 {Removable sample bottle}
- 2001/2078 {Pre-evacuated bottle}
- 2001/2085 {Non-pre-evacuated septum closed bottles}
- 2001/2092 {Cross-cut sampling}
- 1/22 . . . in the gaseous state {(specially adapted for biological material [G01N 33/497](#); measuring breath flow [A61B 5/087](#))}
- 1/2202 . . . {involving separation of sample components during sampling}
- 1/2205 {with filters}
- 1/2208 {with impactors}
- 1/2211 {with cyclones}
- 1/2214 {by sorption}
- 2001/2217 {using a liquid}
- 2001/222 {Other features}
- 2001/2223 {aerosol sampling devices}
- 1/2226 . . . {Sampling from a closed space, e.g. food package, head space}
- 2001/2229 {Headspace sampling, i.e. vapour over liquid}
- 2001/2232 {using a membrane, i.e. pervaporation}
- 2001/2235 {over a melt, e.g. furnace}
- 2001/2238 {the gas being compressed or pressurized}
- 2001/2241 {purpose-built sampling enclosure for emissions}
- 2001/2244 . . . {Exhaled gas, e.g. alcohol detecting}
- 1/2247 . . . {Sampling from a flowing stream of gas}
- 2001/225 {isokinetic, same flow rate for sample and bulk gas}
- 1/2252 {in a vehicle exhaust}
- 2001/2255 {with dilution of the sample}
- 1/2258 {in a stack or chimney}
- 2001/2261 {preventing condensation (heating lines)}
- 2001/2264 {with dilution}
- 2001/2267 {separating gas from liquid, e.g. bubbles}
- 2001/227 {separating gas from solid, e.g. filter}
- 1/2273 . . . {Atmospheric sampling}
- 2001/2276 {Personal monitors}
- 2001/2279 {high altitude, e.g. rockets, balloons}
- 2001/2282 {with cooling means}
- 2001/2285 {Details of probe structures}
- 2001/2288 {Filter arrangements}
- 2001/2291 {Movable probes, e.g. swivelling, swinging}
- 1/2294 {Sampling soil gases or the like}
- 2001/2297 {Timing devices}
- 1/24 Suction devices {([G01N 1/22](#) - [G01N 1/2294](#) take precedence)}
- 2001/241 {Bellows}
- 2001/242 {Injectors or ejectors}
- 2001/244 {using critical flow orifices}
- 2001/245 {Fans}
- 2001/247 {Syringes}
- 2001/248 {Evacuated containers}
- 1/26 with provision for intake from several spaces
- 1/28 Preparing specimens for investigation {including physical details of (bio-)chemical methods covered elsewhere, e.g. [G01N 33/50](#), [C12Q](#)} (mounting specimens on microscopic slides [G02B 21/34](#); means for supporting the objects or the materials to be analysed in electron microscopes [H01J 37/20](#) (; laboratory gas handling apparatus [B01L 5/00](#))}
- 1/2806 . . . {Means for preparing replicas of specimens, e.g. for microscopical analysis}
- 1/2813 . . . {Producing thin layers of samples on a substrate, e.g. smearing, spinning-on ([G01N 1/30](#) takes precedence)}
- 2001/282 {with mapping; Identification of areas; Spatial correlated pattern}
- 2001/2826 {Collecting by adsorption or absorption}
- 2001/2833 {Collecting samples on a sticky, tacky, adhesive surface}
- 2001/284 {using local activation of adhesive, i.e. Laser Capture Microdissection}
- 2001/2846 {Cytocentrifuge method}
- 1/2853 {Shadowing samples}
- 1/286 {involving mechanical work, e.g. chopping, disintegrating, compacting, homogenising (microtomes [G01N 1/06](#); pulverising in general [B02C](#); mixing in general [B01F](#))}
- 2001/2866 {Grinding or homogeneising}
- 2001/2873 {Cutting or cleaving}
- 2001/288 {Filter punches}
- 2001/2886 {Laser cutting, e.g. tissue catapult}
- 2001/2893 {Preparing calibration standards}
- 1/30 Staining; Impregnating {Fixation; Dehydration; Multistep processes for preparing samples of tissue, cell or nucleic acid material and the like for analysis}
- 2001/302 {Stain compositions}
- 2001/305 {Fixative compositions}
- 2001/307 {non-toxic, no Hg, no formaldehyde}
- 1/31 Apparatus therefor
- 1/312 {for samples mounted on planar substrates}
- 2001/315 {Basket-type carriers for tissues}
- 2001/317 {spraying liquids onto surfaces}
- 1/32 Polishing; Etching
- 1/34 Purifying; Cleaning {(processes or apparatus for extracting or separating nucleic acids from biological samples [C12N 15/1003](#))}
- 1/36 Embedding or analogous mounting of samples
- 2001/362 {using continuous plastic film to mount sample}

2001/364	. . . {using resins, epoxy}	3/12	. . . Pressure testing
2001/366	. . . {Moulds; Demoulding}	3/14	. . generated by dead weight, e.g. pendulum; generated by springs tension (G01N 3/18 takes precedence)
2001/368	. . . {Mounting multiple samples in one block, e.g. TMA [Tissue Microarrays]}	3/16	. . applied through gearing (G01N 3/18 takes precedence)
1/38	. . Diluting, dispersing or mixing samples	3/165	. . . {generated by rotation, i.e. centrifugal force (for testing structures or apparatus G01M 99/004)}
2001/381	. . . {by membrane diffusion; Permeation tubes}	3/18	. . Performing tests at high or low temperatures
2001/382	. . . {using pistons of different sections}	3/20	. by applying steady bending forces (G01N 3/26 , G01N 3/28 take precedence)
2001/383	. . . {collecting and diluting in a flow of liquid}	3/22	. by applying steady torsional forces (G01N 3/26 , G01N 3/28 take precedence)
2001/385	. . . {diluting by adsorbing a fraction of the sample}	3/24	. by applying steady shearing forces (G01N 3/26 , G01N 3/28 take precedence)
2001/386	. . . {Other diluting or mixing processes}	3/26	. Investigating twisting or coiling properties
2001/387	. . . . {mixing by blowing a gas, bubbling}	3/28	. Investigating ductility, e.g. suitability of sheet metal for deep-drawing or spinning
2001/388	. . . . {mixing the sample with a tracer}	3/30	. by applying a single impulsive force, e.g. by falling weight
1/40	. . Concentrating samples	3/303	. . generated only by free-falling weight
1/4005	. . . {by transferring a selected component through a membrane}	3/307	. . generated by a compressed or tensile-stressed spring; generated by pneumatic or hydraulic means
2001/4011	. . . . {being a ion-exchange membrane}	3/31	. . generated by a rotating fly-wheel
2001/4016	. . . . {being a selective membrane, e.g. dialysis or osmosis}	3/313	. . generated by explosives
1/4022	. . . {by thermal techniques; Phase changes}	3/317	. . generated by electromagnetic means
2001/4027	. . . . {evaporation leaving a concentrated sample}	3/32	. by applying repeated or pulsating forces
2001/4033	. . . . {sample concentrated on a cold spot, e.g. condensation or distillation}	3/34	. . generated by mechanical means, e.g. hammer blows
2001/4038	. . . {electric methods, e.g. electromigration, electrophoresis, ionisation}	3/36	. . generated by pneumatic or hydraulic means
1/4044	. . . {by chemical techniques; Digestion; Chemical decomposition}	3/38	. . generated by electromagnetic means
1/405	. . . {by adsorption or absorption}	3/40	. Investigating hardness or rebound hardness
1/4055	. . . {by solubility techniques}	3/405	. . {by determining the vibration frequency of a sensing element in contact with the specimen}
2001/4061	. . . . {Solvent extraction}	3/42	. . by performing impressions under a steady load by indentors, e.g. sphere, pyramid (G01N 3/54 takes precedence)
2001/4066	. . . . {using difference of solubility between liquid and gas, e.g. bubbling, scrubbing or sparging}	3/44	. . . the indentors being put under a minor load and a subsequent major load, i.e. Rockwell system
2001/4072	. . . . {membraneless transfer of a component between two parallel laminar flows of fluid}	3/46	. . . the indentors performing a scratching movement
1/4077	. . . {by other techniques involving separation of suspended solids}	3/48	. . by performing impressions under impulsive load by indentors, e.g. falling ball (G01N 3/54 takes precedence)
2001/4083	. . . . {sedimentation}	3/50	. . by measuring rolling friction, e.g. by rocking pendulum (G01N 3/54 takes precedence)
2001/4088	. . . . {filtration}	3/52	. . by measuring extent of rebound of a striking body (G01N 3/54 takes precedence)
2001/4094	. . . . {using ultrasound}	3/54	. . Performing tests at high or low temperatures
1/42	. . Low-temperature sample treatment, e.g. cryofixation	3/56	. Investigating resistance to wear or abrasion
1/44	. . Sample treatment involving radiation, e.g. heat	3/562	. . {using radioactive tracers}
3/00	Investigating strength properties of solid materials by application of mechanical stress	3/565	. . {of granular or particulate material}
	NOTE	3/567	. . {by submitting the specimen to the action of a fluid or of a fluidised material, e.g. cavitation, jet abrasion (G01N 3/565 takes precedence)}
	This group covers the stressing of materials not only below but also beyond the elastic limit, e.g. until breaking occurs.	3/58	. Investigating machinability by cutting tools; Investigating the cutting ability of tools
3/02	. Details	3/60	. Investigating resistance of materials, e.g. refractory materials, to rapid heat changes {(thermal testing of structures or apparatus G01M 99/002)}
3/04	. . Chucks		
3/06	. . Special adaptations of indicating or recording means		
3/062	. . . {with mechanical indicating or recording means}		
3/064	. . . {with hydraulic indicating or recording means}		
3/066	. . . {with electrical indicating or recording means}		
3/068	. . . {with optical indicating or recording means}		
3/08	. by applying steady tensile or compressive forces (G01N 3/28 takes precedence)		
3/10	. . generated by pneumatic or hydraulic pressure (G01N 3/18 takes precedence)		

- 3/62 . . Manufacturing, calibrating, or repairing devices used in investigations covered by the preceding subgroups
- 5/00** **Analysing materials by weighing, e.g. weighing small particles separated from a gas or liquid** ([G01N 9/00](#) takes precedence ; [weighing per se G01G](#))
- 5/02 . . by absorbing or adsorbing components of a material and determining change of weight of the adsorbent, e.g. determining moisture content {([absorption bulbs B01D 53/00](#))}
- 5/025 . . {for determining moisture content}
- 5/04 . . by removing a component, e.g. by evaporation, and weighing the remainder
- 5/045 . . {for determining moisture content}
- 7/00** **Analysing materials by measuring the pressure or volume of a gas or vapour**
- 7/02 . . by absorption, adsorption, or combustion of components and measurement of the change in pressure or volume of the remainder {([absorption bulbs B01D 53/00](#))}
- 7/04 . . by absorption or adsorption alone
- 7/06 . . by combustion alone
- 7/08 . . by combustion followed by absorption or adsorption of the combustion products
- 7/10 . . by allowing diffusion of components through a porous wall and measuring a pressure or volume difference
- 7/12 . . the diffusion being followed by combustion or catalytic oxidation
- 7/14 . . by allowing the material to emit a gas or vapour, e.g. water vapour, and measuring a pressure or volume difference {([determining urea G01N 33/48742](#))}
- 7/16 . . by heating the material
- 7/18 . . by allowing the material to react
- 7/20 . . . the reaction being fermentation
- 7/22 of dough
- 9/00** **Investigating density or specific gravity of materials; Analysing materials by determining density or specific gravity**
- 9/002 . . {using variation of the resonant frequency of an element vibrating in contact with the material submitted to analysis ([G01N 9/34](#) takes precedence)}
- 2009/004 . . {comparing frequencies of two elements}
- 2009/006 . . {vibrating tube, tuning fork}
- 2009/008 . . {Schlatter vibrating vane type}
- 9/02 . . by measuring weight of a known volume
- 2009/022 . . {of solids}
- 2009/024 . . . {the volume being determined directly, e.g. by size of container}
- 2009/026 . . . {the volume being determined by amount of fluid displaced}
- 2009/028 {a gas being used as displacement fluid}
- 9/04 . . of fluids
- 9/06 . . . with continuous circulation through a pivotally supported member
- 9/08 . . by measuring buoyant force of solid materials by weighing both in air and in a liquid
- 9/10 . . by observing bodies wholly or partially immersed in fluid materials
- 9/12 . . by observing the depth of immersion of the bodies, e.g. hydrometers
- 9/14 . . . the body being built into a container
- 9/16 . . . the body being pivoted
- 9/18 . . . Special adaptations for indicating, recording, or control
- 9/20 . . by balancing the weight of the bodies
- 9/22 . . . with continuous circulation of the fluid
- 9/24 . . by observing the transmission of wave or particle radiation through the material
- 9/26 . . by measuring pressure differences
- 2009/263 . . {using vertically-movable pressure transducer}
- 9/266 . . {for determining gas density}
- 9/28 . . by measuring the blowing pressure of gas bubbles escaping from nozzles at different depths in a liquid
- 9/30 . . by using centrifugal effects
- 9/32 . . by using flow properties of fluids, e.g. flow through tubes or apertures
- 9/34 . . by using elements moving through the fluid, e.g. vane
- 9/36 . . Analysing materials by measuring the density or specific gravity, e.g. determining quantity of moisture ([methods of measurement in general G01N 9/02 - G01N 9/32](#))
- 11/00** **Investigating flow properties of materials, e.g. viscosity, plasticity; Analysing materials by determining flow properties**
- 2011/0006 . . {Calibrating, controlling or cleaning viscometers}
- 2011/0013 . . . {Temperature compensation}
- 2011/002 . . {Controlling sample temperature; Thermal cycling during measurement}
- 2011/0026 . . {Investigating specific flow properties of non-Newtonian fluids}
- 2011/0033 . . . {Yield stress; Residual stress at zero shear rate}
- 2011/004 . . . {Stress relaxation time}
- 2011/0046 . . {[In situ](#) measurement during mixing process}
- 2011/0053 . . . {using ergometry; measuring power consumption}
- 2011/006 . . {Determining flow properties indirectly by measuring other parameters of the system}
- 2011/0066 . . . {electrical properties}
- 2011/0073 . . . {acoustic properties}
- 2011/008 . . . {optical properties}
- 2011/0086 . . . {magnetic properties}
- 2011/0093 . . . {thermal properties}
- 11/02 . . by measuring flow of the material
- 11/04 . . through a restricted passage, e.g. tube, aperture
- 11/06 . . . by timing the outflow of a known quantity
- 11/08 . . . by measuring pressure required to produce a known flow
- 11/10 . . by moving a body within the material
- 11/105 . . . {by detecting the balance position of a float moving in a duct conveying the fluid under test}
- 11/12 . . by measuring rising or falling speed of the body; by measuring penetration of wedged gauges ([G01N 11/16](#) takes precedence)
- 11/14 . . by using rotary bodies, e.g. vane ([G01N 11/16](#) takes precedence)
- 11/142 {Sample held between two members substantially perpendicular to axis of rotation, e.g. parallel plate viscometer}
- 2011/145 {both members rotating}

- 2011/147 . . . {Magnetic coupling}
- 11/16 . . by measuring damping effect upon oscillatory body
- 11/162 . . . {Oscillations being torsional, e.g. produced by rotating bodies}
- 11/165 {Sample held between two members substantially perpendicular to axis of rotation, e.g. parallel plate viscometer}
- 11/167 {Sample holder oscillates, e.g. rotating crucible}
- 13/00 Investigating surface or boundary effects, e.g. wetting power; Investigating diffusion effects; Analysing materials by determining surface, boundary, or diffusion effects (scanning-probe techniques or apparatus G01Q)**
- 2013/003 . {Diffusion; diffusivity between liquids}
- 2013/006 . {Dissolution of tablets or the like}
- 13/02 . Investigating surface tension of liquids
- 2013/0208 . . {by measuring contact angle}
- 2013/0216 . . {by measuring skin friction or shear force}
- 2013/0225 . . {of liquid metals or solder}
- 2013/0233 . . {Langmuir troughs; thin-film balances}
- 2013/0241 . . {bubble, pendant drop, sessile drop methods}
- 2013/025 . . . {Measuring foam stability}
- 2013/0258 . . . {Oscillating drop methods}
- 2013/0266 . . . {Bubble methods}
- 2013/0275 . . {involving surface-active agents}
- 2013/0283 . . {methods of calculating surface tension}
- 2013/0291 . . {Wilhelmy plate}
- 13/04 . Investigating osmotic effects
- 15/00 Investigating characteristics of particles; Investigating permeability, pore-volume, or surface-area of porous materials (identification of microorganisms C12Q)**
- 2015/0003 . {Determining electric mobility, velocity profile, average speed or velocity of a plurality of particles}
- 2015/0007 . {Investigating dispersion of gas}
- 2015/0011 . . {in liquids, e.g. bubbles}
- 2015/0015 . . {in solids}
- 2015/0019 . {Means for transferring or separating particles prior to analysis, e.g. hoppers or particle conveyors}
- 2015/0023 . {Investigating dispersion of liquids}
- 2015/0026 . . {in gas, e.g. fog}
- 2015/003 . . {in liquids, e.g. emulsion}
- 2015/0034 . . {in solids}
- 2015/0038 . {Investigating nanoparticles}
- 2015/0042 . {Investigating dispersion of solids}
- 2015/0046 . . {in gas, e.g. smoke}
- 2015/0049 . . . {of filaments in gas}
- 2015/0053 . . {in liquids, e.g. trouble}
- 2015/0057 . . . {of filaments in liquids}
- 2015/0061 . . {in solids, e.g. petrography}
- 2015/0065 . {biological, e.g. blood}
- 2015/0069 . . {with lysing, e.g. of erythrocyts}
- 2015/0073 . . {Red blood cells}
- 2015/0076 . . . {Reticulocytes}
- 2015/008 . . {White cells}
- 2015/0084 . . {Platelets}
- 2015/0088 . . {Biological contaminants; Fouling}
- 2015/0092 . {Monitoring flocculation or agglomeration}
- 2015/0096 . {Investigating consistence of powders, dustability, dustiness}
- 15/02 . Investigating particle size or size distribution (G01N 15/04, G01N 15/10 take precedence; by measuring osmotic pressure G01N 7/10)
- 15/0205 . . {by optical means, e.g. by light scattering, diffraction, holography or imaging}
- 15/0211 . . . {Investigating a scatter or diffraction pattern}
- 2015/0216 {from fluctuations of diffraction pattern}
- 2015/0222 {from dynamic light scattering, e.g. photon correlation spectroscopy}
- 15/0227 . . . {using imaging, e.g. a projected image of suspension; using holography}
- 2015/0233 . . . {using holography}
- 2015/0238 . . . {Single particle scatter}
- 2015/0244 . . . {with cutting-out molecular scatter}
- 2015/025 . . . {Methods for single or grouped particles}
- 15/0255 . . {with mechanical, e.g. inertial, classification, and investigation of sorted collections (with centrifuges G01N 15/042)}
- 2015/0261 . . . {using impactors}
- 15/0266 . . {with electrical classification}
- 15/0272 . . {with screening; with classification by filtering (B01D takes precedence)}
- 2015/0277 . . {Average size only}
- 2015/0283 . . {using control of suspension concentration}
- 2015/0288 . . {Sorting the particles}
- 2015/0294 . . {Particle shape}
- 2015/03 . {Electro-optical investigation of a plurality of particles, the analyser being characterised by the optical arrangement}
- 2015/035 . . {the optical arrangement forming an integrated apparatus with the sample container}
- 15/04 . Investigating sedimentation of particle suspensions
- 15/042 . . {by centrifuging and investigating centrifugates (centrifuges per se B04B)}
- 2015/045 . . . {by optical analysis}
- 2015/047 {by static multidetectors}
- 15/05 . . in blood
- 2015/055 . . . {for hematocrite determination}
- 15/06 . Investigating concentration of particle suspensions (G01N 15/04, G01N 15/10 take precedence; by weighing G01N 5/00)
- NOTE**
- References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group and its subgroups:
- Investigating or analysing materials;
 - by the use of optical means: G01N 21/00, e.g. G01N 21/47, G01N 21/90;
 - by other radiations or by particles: G01N 23/00, e.g. G01N 23/02, G01N 23/201;
 - by measuring impedance: G01N 27/02, e.g. G01N 27/06, G01N 27/22;
 - by electrochemical means: G01N 27/00, e.g. G01N 27/26;
 - by measuring absorption of sonic or ultrasonic vibrations: G01N 29/00, e.g. G01N 29/02
- 15/0606 . . {by collecting particles on a support}
- 15/0612 . . . {Optical scan of the deposits (G01N 15/0625 takes precedence)}

- 15/0618 . . . {of the filter type ([G01N 15/0643](#) takes precedence)}
- 15/0625 {Optical scan of the deposits}
- 15/0631 {Separation of liquids, e.g. by absorption, wicking}
- 15/0637 {Moving support}
- 15/0643 {of the filter type}
- 15/065 . . . {using condensation nuclei counters}
- 15/0656 . . . {using electric, e.g. electrostatic methods or magnetic methods ([by investigating individual particles G01N 15/1031, G01N 15/12](#))}
- 2015/0662 . . . {Comparing before/after passage through filter}
- 2015/0668 . . . {Comparing properties of sample and carrier fluid, e.g. oil in water}
- 2015/0675 . . . {Comparing suspension before/after dilution}
- 2015/0681 . . . {Purposely modifying particles, e.g. humidifying for growing}
- 2015/0687 . . . {in solutions, e.g. non volatile residue}
- 2015/0693 . . . {by optical means, e.g. by integrated nephelometry}
- 15/08 . . . Investigating permeability, pore-volume, or surface area of porous materials
- 15/0806 . . . {Details, e.g. sample holders, mounting samples for testing}
- 2015/0813 . . . {Measuring intrusion, e.g. of mercury}
- 15/082 . . . {Investigating permeability by forcing a fluid through a sample}
- 15/0826 . . . {and measuring fluid flow rate, i.e. permeation rate or pressure change}
- 2015/0833 . . . {Pore surface area}
- 2015/084 . . . {Testing filters}
- 2015/0846 . . . {by use of radiation, e.g. transmitted or reflected light}
- 2015/0853 . . . {by electrical capacitance measurement}
- 2015/086 . . . {of films, membranes or pellicules}
- 2015/0866 . . . {Sorption}
- 2015/0873 . . . {Dynamic sorption, e.g. with flow control means}
- 15/088 . . . {Investigating volume, surface area, size or distribution of pores; Porosimetry}
- 15/0886 . . . {Mercury porosimetry}
- 15/0893 . . . {by measuring weight or volume of sorbed fluid, e.g. B.E.T. method}
- 15/10 . . . Investigating individual particles
- 2015/1006 . . . {for cytology}
- 15/1012 . . . {Calibrating particle analysers; References therefor}
- 2015/1018 . . . {Constitution of reference particles}
- 2015/1025 . . . {Particle flow simulating, e.g. liquid crystal cell}
- 15/1031 . . . {by measuring electrical or magnetic effects thereof, e.g. onconductivity or capacity ([using nanoscale size effects, other than for sizing or counting, by translocation through nanopores G01N 33/48721; involving the use of Coulter counters G01N 15/12](#))}
- 2015/1037 . . . {Associating coulter-counter and optical flow cytometer [OFC]}
- 2015/1043 . . . {Measuring mass of individual particles}
- 2015/105 . . . {Other than optical measurement of deformation of individual particles ([optical measurement G01N 2015/1495](#))}
- 15/1056 . . . {Microstructural devices for other than electro-optical measurement ([for electro-optical measurement G01N 15/1484](#))}
- 2015/1062 . . . {counting the particles by other than electro-optical means ([by electro-optical means G01N 2015/1486](#))}
- 2015/1068 . . . {Recognizing failure of the analyser, e.g. bubbles; Quality control for particle analysers}
- 2015/1075 . . . {Determining speed or velocity of a particle}
- 2015/1081 . . . {Sorting the particles}
- 2015/1087 . . . {Particle size}
- 2015/1093 . . . {Particle shape}
- 15/12 . . . Coulter-counters
- 15/1209 {Details}
- 15/1218 {concerning the aperture}
- 15/1227 {Circuits}
- 2015/1236 {Flow forming}
- 15/1245 {Devices using more than one aperture}
- 2015/1254 {Electrodes}
- 2015/1263 {Scanning electrodes}
- 2015/1272 {Cleaning}
- 2015/1281 {Detecting blocking debris}
- 2015/129 {measuring the ratio of AC/DC impedances}
- 15/14 . . . Electro-optical investigation, e.g. flow cytometers
- 2015/1402 {Data analysis by thresholding or gating operations performed on the acquired signals or stored data}
- 15/1404 {Fluid conditioning in flow cytometers, e.g. flow cells; Supply; Control of flow}
- 2015/1406 {Control of droplet point}
- 2015/1409 {Control of supply of sheaths fluid, e.g. sample injection control}
- 2015/1411 {Features of sheath fluids}
- 2015/1413 {Hydrodynamic focussing}
- 2015/1415 {Control of particle position}
- 2015/1418 {Eliminating clogging of debris}
- 2015/142 {Acoustic or ultrasonic focussing}
- 2015/1422 {Electrical focussing}
- 15/1425 {using an analyser being characterised by its control arrangement}
- 15/1427 {with the synchronisation of components, a time gate for operation of components, or suppression of particle coincidences}
- 15/1429 {using an analyser being characterised by its signal processing}
- 15/1431 {the electronics being integrated with the analyser, e.g. hand-held devices for on-site investigation}
- 15/1434 {using an analyser being characterised by its optical arrangement}
- 15/1436 {the optical arrangement forming an integrated apparatus with the sample container, e.g. a flow cell}
- 2015/1438 {Using two lasers in succession}
- 2015/144 {Imaging characterised by its optical setup}
- 2015/1443 {Auxiliary imaging}
- 2015/1445 {Three-dimensional imaging, imaging in different image planes, e.g. under different angles or at different depths, e.g. by a relative motion of sample and detector, for instance by tomography}
- 2015/1447 {Spatial selection}
- 2015/145 {by pattern of light, e.g. fringe pattern}

2015/1452	. . . .	{Adjustment of focus; Alignment}	2015/1497	. . .	{Particle shape}
2015/1454	. . . .	{using phase shift or interference, e.g. for improving contrast}	17/00		Investigating resistance of materials to the weather, to corrosion, or to light
15/1456	. . .	{without spatial resolution of the texture or inner structure of the particle, e.g. processing of pulse signals}	17/002	.	{Test chambers}
15/1459	. . . .	{the analysis being performed on a sample stream}	17/004	.	{to light}
2015/1461	. . . .	{Coincidence detecting; Circuits therefor}	17/006	.	{of metals}
15/1463	. . . .	{using image analysis for extracting features of the particle}	17/008	.	{Monitoring fouling}
			17/02	.	Electrochemical measuring systems for weathering, corrosion or corrosion-protection measurement
			17/04	.	Corrosion probes
			17/043	. .	{Coupons}
			17/046	. . .	{Means for supporting or introducing coupons}
		NOTE	19/00		Investigating materials by mechanical methods
		{References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group:	(G01N 3/00 - G01N 17/00 take precedence)		
		• counting objects disposed at random with size distinction G06M 11/04	19/02	.	Measuring coefficient of friction between materials ({testing of tyres G01M 17/02 ; determinations of friction coefficient used in vehicle braking or traction control systems B60T 8/172 })
		• extraction of features from image for pattern recognition G06V 10/40	19/04	.	Measuring adhesive force between materials, e.g. of sealing tape, of coating
		• specific image analysis method for the recognition of microscopic objects G06V 20/69	19/06	.	Investigating by removing material, e.g. spark-testing
		• image enhancement in general G06T 5/00	19/08	.	Detecting presence of flaws or irregularities
		• image analysis in general G06T 7/00 }	19/10	.	Measuring moisture content, e.g. by measuring change in length of hygroscopic filament; Hygrometers
2015/1465	. . . . .	{image analysis on colour image}	21/00		Investigating or analysing materials by the use of optical means, i.e. using sub-millimetre waves, infrared, visible or ultraviolet light
15/1468	. . .	{with spatial resolution of the texture or inner structure of the particle}	(G01N 3/00 - G01N 19/00 take precedence)		
			NOTE		This group <u>does not cover</u> the investigation of spectral properties of light <u>per se</u> , or measurements of the properties of materials where spectral properties of light are sensed and primary emphasis is placed on creating, detecting or analysing the spectrum providing that the properties of the materials to be investigated are of minor importance. Those subjects are covered by group G01J 3/00 .
		NOTE	21/01	.	Arrangements or apparatus for facilitating the optical investigation
		{References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group:	2021/0106	. .	{General arrangement of respective parts}
		• counting objects disposed at random with size distinction G06M 11/04	2021/0112	. . .	{Apparatus in one mechanical, optical or electronic block}
		• extraction of features from image for pattern recognition G06V 10/40	2021/0118	. . .	{Apparatus with remote processing}
		• specific image analysis method for the recognition of microscopic objects G06V 20/69	2021/0125	. . . .	{with stored program or instructions}
		• image enhancement G06T 5/00	2021/0131	. . . . .	{being externally stored}
		• image analysis G06T 7/00 }	2021/0137	. . . . .	{with PC or the like}
15/147	. . . . .	{the analysis being performed on a sample stream}	2021/0143	. . . . .	{with internal and external computer}
2015/1472	. . . . .	{with colour}	2021/015	. . .	{Apparatus with interchangeable optical heads or interchangeable block of optics and detector}
15/1475	. . . . .	{using image analysis for extracting features of the particle}	2021/0156	. . . . .	{with optics only in separate head, e.g. connection by optical fibres}
2015/1477	. . . .	{Multiparameters}	2021/0162	. .	{using microprocessors for control of a sequence of operations, e.g. test, powering, switching, processing}
2015/1479	. . . . .	{Using diffuse illumination or excitation}	2021/0168	. . . .	{for the measurement cycle}
2015/1481	. . . .	{Optical analysis of particle in droplet}	2021/0175	. . . .	{for selecting operating means}
15/1484	. . . .	{microstructural devices}			
2015/1486	. . . .	{Counting the particles}			
2015/1488	. . . .	{Methods for deciding}			
2015/149	. . . .	{Sorting the particles}			
2015/1493	. . . .	{Particle size}			
2015/1495	. . . . .	{Deformation of particles}			

- 2021/0181 . . . {Memory or computer-assisted visual determination}
- 2021/0187 . . . {Mechanical sequence of operations}
- 2021/0193 . . . {the sample being taken from a stream or flow to the measurement cell}
- 21/03 . . . Cuvette constructions
- 21/0303 {Optical path conditioning in cuvettes, e.g. windows; adapted optical elements or systems; path modifying or adjustment ([G01N 21/031](#) - [G01N 21/15](#) take precedence)}
- 2021/0307 {Insert part in cell}
- 21/031 {Multipass arrangements}
- 2021/0314 {Double pass, autocollimated path}
- 21/0317 {High pressure cuvettes; ([G01N 21/0332](#) - [G01N 21/15](#) take precedence)}
- 2021/0321 {One time use cells, e.g. integrally moulded}
- 2021/0325 {Cells for testing reactions, e.g. containing reagents}
- 2021/0328 {Arrangement of two or more cells having different functions for the measurement of reactions}
- 21/0332 {with temperature control ([control of temperature G05D 23/00](#); cryostats [F17C 3/08](#))}
- 2021/0335 {Refrigeration of cells; Cold stages}
- 2021/0339 {Holders for solids, powders}
- 2021/0342 {Solid sample being immersed, e.g. equiindex fluid}
- 2021/0346 {Capillary cells; Microcells}
- 2021/035 {Supports for sample drops}
- 2021/0353 {Conveyor of successive sample drops}
- 2021/0357 {Sets of cuvettes}
- 2021/036 {transformable, modifiable}
- 2021/0364 {flexible, compressible}
- 2021/0367 {Supports of cells, e.g. pivotable}
- 2021/0371 {Supports combined with sample intake}
- 2021/0375 {Slidable cells}
- 2021/0378 {Shapes}
- 2021/0382 {Frustoconical, tapered cell}
- 2021/0385 {Diffusing membrane; Semipermeable membrane}
- 2021/0389 {Windows}
- 2021/0392 {Nonplanar windows}
- 2021/0396 {Oblique incidence}
- 21/05 Flow-through cuvettes ([G01N 21/09](#) takes precedence; [handling fluid samples G01N 1/10](#))
- 2021/052 {Tubular type; cavity type; multireflective}
- 2021/054 {Bubble trap; Debubbling}
- 2021/056 {Laminated construction}
- 2021/058 {Flat flow cell}
- 21/07 Centrifugal type cuvettes ([G01N 21/09](#) takes precedence)
- 21/09 adapted to resist hostile environments or corrosive or abrasive materials
- 21/11 Filling or emptying of cuvettes
- 2021/115 {Washing; Purging}
- 21/13 Moving of cuvettes or solid samples to or from the investigating station ([handling materials for automatic analysis G01N 35/00](#))
- 2021/135 {Sample holder displaceable ([in automatised apparatus G01N 35/02](#))}
- 21/15 Preventing contamination of the components of the optical system or obstruction of the light path
- 2021/151 {Gas blown}
- 2021/152 {Scraping; Brushing; Moving band}
- 2021/154 {Ultrasonic cleaning}
- 2021/155 {Monitoring cleanness of window, lens, or other parts}
- 2021/157 {Monitoring by optical means}
- 2021/158 {Eliminating condensation}
- 21/17 Systems in which incident light is modified in accordance with the properties of the material investigated ([where the material investigated is optically excited causing a change in wavelength of the incident light G01N 21/63](#))
- 21/1702 {with opto-acoustic detection, e.g. for gases or analysing solids}
- 2021/1704 {in gases}
- 2021/1706 {in solids}
- 2021/1708 {with piezotransducers ([probes for investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves G01N 29/24](#))}
- 21/171 {with calorimetric detection, e.g. with thermal lens detection}
- 2021/1712 {Thermal lens, mirage effect}
- 2021/1714 {Photothermal radiometry with measurement of emission}
- 21/1717 {with a modulation of one or more physical properties of the sample during the optical investigation, e.g. electro-reflectance}
- 2021/1719 {Carrier modulation in semiconductors}
- 2021/1721 {Electromodulation}
- 2021/1723 {Fluid modulation}
- 2021/1725 {Modulation of properties by light, e.g. photorefectance}
- 2021/1727 {Magnetomodulation}
- 2021/1729 {Piezomodulation}
- 2021/1731 {Temperature modulation}
- 2021/1734 {Sequential different kinds of measurements; Combining two or more methods}
- 2021/1736 {with two or more light sources}
- 2021/1738 {Optionally different kinds of measurements; Method being valid for different kinds of measurement}
- 2021/174 {either absorption-reflection or emission-fluorescence}
- 2021/1742 {either absorption or reflection}
- 2021/1744 {either absorption or scatter}
- 2021/1746 {Method using tracers}
- 2021/1748 {Comparative step being essential in the method}
- 2021/1751 {Constructive features therefore, e.g. using two measurement cells}
- 2021/1753 {and using two light sources}
- 2021/1755 {and using two apparatus or two probes}
- 2021/1757 {Time modulation of light being essential to the method of light modification, e.g. using single detector ([circuits for photometry with modulation, using one detector G01J 1/44](#))}
- 2021/1759 {Jittering, dithering, optical path modulation}
- 2021/1761 {A physical transformation being implied in the method, e.g. a phase change}
- 2021/1763 {Gas to liquid phase change}

- 2021/1765 . . . {Method using an image detector and processing of image signal}
- 2021/1768 . . . {using photographic film}
- 2021/177 . . . {Detector of the video camera type}
- 2021/1772 {Array detector}
- 2021/1774 {Line array detector}
- 2021/1776 {Colour camera}
- 2021/1778 {IIT [intensified image tube]}
- 2021/178 . . . {Methods for obtaining spatial resolution of the property being measured}
- 2021/1782 . . . {In-depth resolution}
- 2021/1785 . . . {Three dimensional}
- 2021/1787 {Tomographic, i.e. computerised reconstruction from projective measurements}
- 2021/1789 . . . {Time resolved}
- 2021/1791 . . . {stroboscopic; pulse gated; time range gated}
- 2021/1793 . . . {Remote sensing}
- 2021/1795 . . . {Atmospheric mapping of gases}
- 2021/1797 . . . {in landscape, e.g. crops}
- 21/19 . . . Dichroism
- 21/21 . . . Polarisation-affecting properties ([G01N 21/19 takes precedence](#))
- 21/211 . . . {Ellipsometry (optical thickness measurement [G01B 11/06](#))}
- 2021/212 {Arrangement with total internal reflection}
- 2021/213 {Spectrometric ellipsometry}
- 2021/214 {Variance incidence arrangement}
- 2021/215 {Brewster incidence arrangement}
- 2021/216 {using circular polarised light}
- 2021/217 {Measuring depolarisation or comparing polarised and depolarised parts of light}
- 2021/218 {Measuring properties of electrooptical or magneto-optical media}
- 21/23 Bi-refringence
- 21/25 . . . Colour; Spectral properties, i.e. comparison of effect of material on the light at two or more different wavelengths or wavelength bands
- 21/251 {Colorimeters; Construction thereof}
- 21/253 {for batch operation, i.e. multisample apparatus ([analytical automats G01N 35/00](#))}
- 21/255 {Details, e.g. use of specially adapted sources, lighting or optical systems}
- 21/256 {Arrangements using two alternating lights and one detector}
- 2021/258 {Surface plasmon spectroscopy, e.g. micro- or nanoparticles in suspension}
- 21/27 using photo-electric detection ([G01N 21/31 takes precedence](#)); circuits for computing concentration (logarithmic circuits [G06G 7/24](#); photometric circuits in general [G01J](#))}
- 21/272 {for following a reaction, e.g. for determining photometrically a reaction rate (photometric kinetic analysis)}
- 21/274 {Calibration, base line adjustment, drift correction}
- 21/276 {with alternation of sample and standard in optical path}
- 21/278 {Constitution of standards}
- 21/29 using visual detection ([G01N 21/31 takes precedence](#))
- 21/293 {with colour charts, graduated scales or turrets}
- 2021/296 {Visually measuring scintillation effect}
- 21/31 Investigating relative effect of material at wavelengths characteristic of specific elements or molecules, e.g. atomic absorption spectrometry ([G01N 21/72 takes precedence](#))
- 21/3103 {Atomic absorption analysis}
- 2021/3107 {Cold vapor, e.g. determination of Hg}
- 2021/3111 {using Zeeman split}
- 2021/3114 {Multi-element AAS arrangements}
- 2021/3118 {Commutating sources, e.g. line source/broad source, chopping for comparison of broad/narrow regimes}
- 2021/3122 {using a broad source with a monochromator}
- 2021/3125 {Measuring the absorption by excited molecules}
- 2021/3129 {Determining multicomponents by multiwavelength light}
- 2021/3133 {with selection of wavelengths before the sample}
- 2021/3137 {with selection of wavelengths after the sample}
- 21/314 {with comparison of measurements at specific and non-specific wavelengths (dual wavelength spectrometry [G01J 3/427](#))}
- 2021/3144 {for oxymetry}
- 2021/3148 {using three or more wavelengths}
- 21/3151 {using two sources of radiation of different wavelengths ([G01N 21/33 - G01N 21/39 take precedence](#))}
- 2021/3155 {Measuring in two spectral ranges, e.g. UV and visible}
- 2021/3159 {Special features of multiplexing circuits}
- 2021/3162 {with offset adjustment between filters}
- 2021/3166 {using separate detectors and filters}
- 2021/317 {Special constructive features}
- 2021/3174 {Filter wheel}
- 2021/3177 {Use of spatially separated filters in simultaneous way}
- 2021/3181 {using LEDs}
- 2021/3185 {typically monochromatic or band-limited}
- 2021/3188 {band-limited}
- 2021/3192 {Absorption edge variation is measured}
- 2021/3196 {Correlating located peaks in spectrum with reference data, e.g. fingerprint data}
- 21/33 using ultra-violet light ([G01N 21/39 takes precedence](#))
- 2021/335 {Vacuum UV}
- 21/35 using infra-red light ([G01N 21/39 takes precedence](#))
- 21/3504 for analysing gases, e.g. multi-gas analysis
- 2021/3509 {Correlation method, e.g. one beam alternating in correlator/sample field}
- 2021/3513 {Open path with an instrumental source}
- 21/3518 Devices using gas filter correlation techniques; Devices using gas pressure modulation techniques

NOTE

This group also covers devices without instrumental sources, e.g.

G01N

G01N 21/3518

(continued)

	radiometric-type devices using ambient infra-red light.	2021/418	. . . . {Frequency/phase diagrams}
		2021/4186	. . . . {Phase modulation imaging}
2021/3522	. . . . . {balancing by two filters on two detectors}	2021/4193	. . . . {using a PSD}
2021/3527	. . . . . {and using one filter cell as attenuator}	21/43	. . . . by measuring critical angle
2021/3531	. . . . . {without instrumental source, i.e. radiometric}	21/431	. . . . {Dip refractometers, e.g. using optical fibres}
2021/3536	. . . . . {using modulation of pressure or density}	2021/432	. . . . . {comprising optical fibres}
2021/354	. . . . . {Hygrometry of gases}	2021/433	. . . . . {with an unclad part on the fibre}
2021/3545	. . . . . {Disposition for compensating effect of interfering gases}	2021/434	. . . . . {Dipping block in contact with sample, e.g. prism}
2021/355	. . . . . {by using a third optical path, e.g. interference cuvette}	2021/435	. . . . . {Sensing drops on the contact surface}
21/3554	. . . . . for determining moisture content	2021/436	. . . . . {Sensing resonant reflection}
21/3559	. . . . . in sheets, e.g. in paper	2021/437	. . . . . {with investigation of angle}
21/3563	. . . . . for analysing solids; Preparation of samples therefor	2021/438	. . . . . {with investigation of wavelength}
2021/3568	. . . . . {applied to semiconductors, e.g. Silicon}	21/45	. . . . using interferometric methods; using Schlieren methods
2021/3572	. . . . . {Preparation of samples, e.g. salt matrices}	2021/451	. . . . . {for determining the optical absorption}
21/3577	. . . . . for analysing liquids, e.g. polluted water	21/453	. . . . . {Holographic interferometry (for dimensional measurements G01B 9/021 - G01B 9/029)}
21/3581	. . . . . using far infra-red light; using Terahertz radiation	21/455	. . . . . {Schlieren methods, e.g. for gradient index determination; Shadowgraph}
21/3586	. . . . . by Terahertz time domain spectroscopy [THz-TDS]	2021/456	. . . . . {Moire deflectometry}
21/359	. . . . . using near infra-red light	2021/458	. . . . . {using interferential sensor, e.g. sensor fibre, possibly on optical waveguide}
2021/3595	. . . . . {using FTIR}	21/47	. . . . Scattering, i.e. diffuse reflection (G01N 21/25 , G01N 21/41 take precedence G01N 21/55 takes precedence)
21/37	. . . . . using pneumatic detection (opto-acoustic detection G01N 21/1702)	2021/4702	. . . . {Global scatter; Total scatter, excluding reflections}
21/39	. . . . . using tunable lasers	2021/4704	. . . . {Angular selective}
2021/391	. . . . . {Intracavity sample}	2021/4707	. . . . {Forward scatter; Low angle scatter}
2021/392	. . . . . {Measuring reradiation, e.g. fluorescence, backscatter}	2021/4709	. . . . {Backscatter}
2021/393	. . . . . {and using a spectral variation of the interaction of the laser beam and the sample}	2021/4711	. . . . {Multiangle measurement}
2021/394	. . . . . {DIAL method}	2021/4714	. . . . . {Continuous plural angles}
2021/395	. . . . . {using a topographic target}	2021/4716	. . . . . {Using a ring of sensors, or a combination of diaphragm and sensors; Annular sensor}
2021/396	. . . . . {Type of laser source}	2021/4719	. . . . . {using a optical fibre array}
2021/397	. . . . . {Dye laser}	2021/4721	. . . . . {using a PSD}
2021/398	. . . . . {CO ₂ laser}	2021/4723	. . . . . {Scanning scatter angles}
2021/399	. . . . . {Diode laser}	2021/4726	. . . . . {Detecting scatter at 90°}
21/41	. . . . . Refractivity; Phase-affecting properties, e.g. optical path length (G01N 21/21 takes precedence)	2021/4728	. . . . . {Optical definition of scattering volume}
2021/4106	. . . . . {Atmospheric distortion; Turbulence}	2021/473	. . . . . {Compensating for unwanted scatter, e.g. reliefs, marks}
2021/4113	. . . . . {Atmospheric dispersion}	2021/4733	. . . . . {Discriminating different types of scatterers}
21/412	. . . . . {Index profiling of optical fibres}	2021/4735	. . . . . {Solid samples, e.g. paper, glass}
2021/4126	. . . . . {Index of thin films}	21/4738	. . . . . {Diffuse reflection (precedence is given to G01N 21/55 - G01N 21/57 if specular component is taken into consideration), e.g. also for testing fluids, fibrous materials}
21/4133	. . . . . {Refractometers, e.g. differential}	21/474	. . . . . {Details of optical heads therefor, e.g. using optical fibres}
2021/414	. . . . . {Correcting temperature effect in refractometers}	2021/4742	. . . . . {comprising optical fibres}
2021/4146	. . . . . {Differential cell arrangements}	2021/4745	. . . . . {Fused bundle, i.e. for backscatter}
2021/4153	. . . . . {Measuring the deflection of light in refractometers}	2021/4747	. . . . . {Concentric bundles}
2021/416	. . . . . {Visualising flow by index measurement}	2021/475	. . . . . {Bifurcated bundle}
2021/4166	. . . . . {Methods effecting a waveguide mode enhancement through the property being measured}	2021/4752	. . . . . {Geometry}
2021/4173	. . . . . {Phase distribution}	2021/4754	. . . . . {Diffuse illumination}
		2021/4757	. . . . . {Geometry 0/45° or 45/0°}
		2021/4759	. . . . . {Annular illumination}
		2021/4761	. . . . . {Mirror arrangements, e.g. in IR range}
		2021/4764	. . . . . {Special kinds of physical applications}

2021/4766	. . . . .	{Sample containing fluorescent brighteners}	21/5911	. . . . .	{of the scanning type (scanning per se G02B)}
2021/4769	. . . . .	{Fluid samples, e.g. slurries, granulates; Compressible powdery of fibrous samples}	2021/5915	. . . . .	{Processing scan data in densitometry}
2021/4771	. . . . .	{Matte surfaces with reflecting particles}	2021/5919	. . . . .	{Determining total density of a zone}
2021/4773	. . . . .	{Partly or totally translucent samples}	2021/5923	. . . . .	{Determining zones of density; quantitating spots}
2021/4776	. . . . .	{Miscellaneous in diffuse reflection devices}	2021/5926	. . . . .	{Isodensitometers}
2021/4778	. . . . .	{Correcting variations in front distance}	2021/593	. . . . .	{Correcting from the background density}
2021/478	. . . . .	{Application in testing analytical test strips}	2021/5934	. . . . .	{Averaging on a zone}
2021/4783	. . . . .	{Examining under varying incidence; Angularly adjustable head}	2021/5938	. . . . .	{Features of monitor, display}
21/4785	. . . . .	{Standardising light scatter apparatus; Standards therefor}	2021/5942	. . . . .	{for dot area ratio in printing applications}
21/4788	. . . . .	{Diffraction (for sizing particles G01N 15/0205)}	2021/5946	. . . . .	{for binary signal}
2021/479	. . . . .	{Speckle}	2021/5949	. . . . .	{Correcting nonlinearity of signal, e.g. in measurement of photomedium}
2021/4792	. . . . .	{Polarisation of scatter light}	2021/5953	. . . . .	{for detecting a spatial spectrum}
21/4795	. . . . .	{spatially resolved investigating of object in scattering medium (in vivo A61B)}	2021/5957	. . . . .	{using an image detector type detector, e.g. CCD}
2021/4797	. . . . .	{time resolved, e.g. analysis of ballistic photons}	2021/5961	. . . . .	{using arrays of sources and detectors}
21/49	. . . . .	within a body or fluid	2021/5965	. . . . .	{using selected detectors in an array}
2021/495	. . . . .	{the fluid being adsorbed, e.g. in porous medium}	2021/5969	. . . . .	{Scanning of a tube, a cuvette, a volume of sample}
21/51	. . . . .	inside a container, e.g. in an ampoule (G01N 21/53 takes precedence)	2021/5973	. . . . .	{where the cuvette or tube is moved}
2021/513	. . . . .	{Cuvettes for scattering measurements}	2021/5976	. . . . .	{Image projected and scanning projected image}
2021/516	. . . . .	{Multiple excitation of scattering medium, e.g. by retro-reflected or multiply reflected excitation rays}	2021/598	. . . . .	{Features of mounting, adjusting}
21/53	. . . . .	within a flowing fluid, e.g. smoke	2021/5984	. . . . .	{height adjustable}
21/532	. . . . .	{with measurement of scattering and transmission}	2021/5988	. . . . .	{Fluid mounting or the like, e.g. vortex}
21/534	. . . . .	{by measuring transmission alone, i.e. determining opacity}	2021/5992	. . . . .	{Double pass}
2021/536	. . . . .	{Measurement device mounted at stack}	2021/5996	. . . . .	{Positioning the head}
21/538	. . . . .	{for determining atmospheric attenuation and visibility}	21/61	. . . . .	Non-dispersive gas analysers (G01N 21/3504 takes precedence)
21/55	. . . . .	Specular reflectivity	21/62	. . . . .	Systems in which the material investigated is excited whereby it emits light or causes a change in wavelength of the incident light
2021/551	. . . . .	{Retroreflectance}	2021/625	. . . . .	{Excitation by energised particles such as metastable molecules}
21/552	. . . . .	Attenuated total reflection	21/63	. . . . .	optically excited
21/553	. . . . .	{and using surface plasmons (fluorescence excitation G01N 21/648; enhanced Raman G01N 21/658)}	21/631	. . . . .	{using photolysis and investigating photolysed fragments}
21/554	. . . . .	{detecting the surface plasmon resonance of nanostructured metals, e.g. localised surface plasmon resonance}	2021/632	. . . . .	{Predissociation, e.g. for fluorescence of transient excited radicals}
2021/555	. . . . .	{Measuring total reflection power, i.e. scattering and specular}	2021/633	. . . . .	{Photoinduced grating used for analysis}
2021/556	. . . . .	{Measuring separately scattering and specular}	2021/634	. . . . .	{Photochromic material analysis}
2021/557	. . . . .	{Detecting specular reflective parts on sample}	2021/635	. . . . .	{Photosynthetic material analysis, e.g. chlorophyll}
2021/558	. . . . .	{Measuring reflectivity and transmission}	21/636	. . . . .	{using an arrangement of pump beam and probe beam; using the measurement of optical non-linear properties; (non-linear optics per se G02F 1/35)}
2021/559	. . . . .	{Determining variation of specular reflection within diffusively reflecting sample}	2021/637	. . . . .	{Lasing effect used for analysis}
21/57	. . . . .	Measuring gloss	2021/638	. . . . .	{Brillouin effect, e.g. stimulated Brillouin effect}
2021/575	. . . . .	{Photogoniometering}	21/64	. . . . .	Fluorescence; Phosphorescence
21/59	. . . . .	Transmissivity (G01N 21/25 takes precedence)	21/6402	. . . . .	{Atomic fluorescence; Laser induced fluorescence}
2021/5903	. . . . .	{using surface plasmon resonance [SPR], e.g. extraordinary optical transmission [EOT]}	21/6404	. . . . .	{Atomic fluorescence}
21/5907	. . . . .	{Densitometers}	2021/6406	. . . . .	{multi-element}
			21/6408	. . . . .	{with measurement of decay time, time resolved fluorescence}
			2021/641	. . . . .	{Phosphorimetry, gated}
			2021/6413	. . . . .	{Distinction short and delayed fluorescence or phosphorescence}

2021/6415	. . . . .	{with two excitations, e.g. strong pump/probe flash}	2021/656	. . . . .	{Raman microprobe}
2021/6417	. . . . .	{Spectrofluorimetric devices}	21/658	. . . . .	{enhancement Raman, e.g. surface plasmons}
2021/6419	. . . . .	{Excitation at two or more wavelengths}	21/66	. . . . .	electrically excited, e.g. electroluminescence
2021/6421	. . . . .	{Measuring at two or more wavelengths}	21/67	. . . . .	using electric arcs or discharges
2021/6423	. . . . .	{Spectral mapping, video display}	21/68	. . . . .	using high frequency electric fields
2021/6426	. . . . .	{Determining Fraunhofer lines}	21/69	. . . . .	specially adapted for fluids {, e.g. molten metal}
21/6428	. . . . .	{Measuring fluorescence of fluorescent products of reactions or of fluorochrome labelled reactive substances, e.g. measuring quenching effects, using measuring "optrodes" (in vivo A61B 5/00; immunoassay G01N 33/53)}	2021/695	. . . . .	{Molten metals}
21/643	. . . . .	{non-biological material}	21/70	. . . . .	mechanically excited, e.g. triboluminescence
2021/6432	. . . . .	{Quenching}	21/71	. . . . .	thermally excited
2021/6434	. . . . .	{Optrodes}	2021/712	. . . . .	{using formation of volatile hydride}
2021/6436	. . . . .	{for analysing tapes}	21/714	. . . . .	{Sample nebulisers for flame burners or plasma burners (nebulizers per se B05B)}
2021/6439	. . . . .	{with indicators, stains, dyes, tags, labels, marks}	21/716	. . . . .	{by measuring the radiation emitted by a test object treated by combustion gases for investigating the composition of gas mixtures}
2021/6441	. . . . .	{with two or more labels}	21/718	. . . . .	{Laser microanalysis, i.e. with formation of sample plasma}
2021/6443	. . . . .	{Fluorimetric titration}	21/72	. . . . .	using flame burners
21/6445	. . . . .	{Measuring fluorescence polarisation}	2021/725	. . . . .	{for determining of metalloids, using Beilstein type reaction}
21/6447	. . . . .	{by visual observation}	21/73	. . . . .	using plasma burners or torches
21/645	. . . . .	{Specially adapted constructive features of fluorimeters}	21/74	. . . . .	using flameless atomising, e.g. graphite furnaces
21/6452	. . . . .	{Individual samples arranged in a regular 2D-array, e.g. multiwell plates}	2021/745	. . . . .	{Control of temperature, heating, ashing}
21/6454	. . . . .	{using an integrated detector array}	21/75	. . . . .	Systems in which material is subjected to a chemical reaction, the progress or the result of the reaction being investigated (systems in which material is burnt in a flame or plasma G01N 21/72, G01N 21/73)
21/6456	. . . . .	{Spatial resolved fluorescence measurements; Imaging}	2021/751	. . . . .	{Comparing reactive/non reactive substances}
21/6458	. . . . .	{Fluorescence microscopy (fluorescence microscopes per se G02B 21/0076 and G02B 21/16)}	2021/752	. . . . .	{Devices comprising reaction zones}
2021/646	. . . . .	{Detecting fluorescent inhomogeneities at a position, e.g. for detecting defects}	2021/754	. . . . .	{Reagent flow and intermittent injection of sample or <i>vice versa</i> }
2021/6463	. . . . .	{Optics}	2021/755	. . . . .	{Comparing readings with/without reagents, or before/after reaction}
2021/6465	. . . . .	{Angular discrimination}	2021/757	. . . . .	{using immobilised reagents}
2021/6467	. . . . .	{Axial flow and illumination}	2021/758	. . . . .	{using reversible reaction}
2021/6469	. . . . .	{Cavity, e.g. ellipsoid}	21/76	. . . . .	Chemiluminescence; Bioluminescence
2021/6471	. . . . .	{Special filters, filter wheel}	21/763	. . . . .	{Bioluminescence}
2021/6473	. . . . .	{In-line geometry}	21/766	. . . . .	{of gases}
2021/6476	. . . . .	{Front end, i.e. backscatter, geometry}	21/77	. . . . .	by observing the effect on a chemical indicator
2021/6478	. . . . .	{Special lenses}	21/7703	. . . . .	{using reagent-clad optical fibres or optical waveguides (using measurement of total internal reflection or attenuated total reflection G01N 21/552; optical fibres or waveguides per se G02B)}
21/648	. . . . .	{using evanescent coupling or surface plasmon coupling for the excitation of fluorescence}	2021/7706	. . . . .	{Reagent provision}
2021/6482	. . . . .	{Sample cells, cuvettes}	2021/7709	. . . . .	{Distributed reagent, e.g. over length of guide}
2021/6484	. . . . .	{Optical fibres}	2021/7713	. . . . .	{in core}
21/6486	. . . . .	{Measuring fluorescence of biological material, e.g. DNA, RNA, cells (G01N 21/6428 takes precedence)}	2021/7716	. . . . .	{in cladding}
21/6489	. . . . .	{Photoluminescence of semiconductors}	2021/772	. . . . .	{Tip coated light guide}
2021/6491	. . . . .	{Measuring fluorescence and transmission; Correcting inner filter effect}	2021/7723	. . . . .	{Swelling part, also for adsorption sensor, i.e. without chemical reaction}
2021/6493	. . . . .	{by alternating fluorescence/transmission or fluorescence/reflection}	2021/7726	. . . . .	{Porous glass}
2021/6495	. . . . .	{Miscellaneous methods}	2021/773	. . . . .	{Porous polymer jacket; Polymer matrix with indicator}
2021/6497	. . . . .	{Miscellaneous applications}	2021/7733	. . . . .	{Reservoir, liquid reagent}
21/65	. . . . .	Raman scattering	2021/7736	. . . . .	{exposed, cladding free}
2021/651	. . . . .	{Cuvettes therefore}	21/774	. . . . .	{the reagent being on a grating or periodic structure}
2021/653	. . . . .	{Coherent methods [CARS]}			
2021/655	. . . . .	{Stimulated Raman}			

21/7743	. . . . .	{the reagent-coated grating coupling light in or out of the waveguide}	2021/8528	. . . . .	{Immersed light conductor}
21/7746	. . . . .	{the waveguide coupled to a cavity resonator}	2021/8535	. . . . .	{presenting a cut}
2021/775	. . . . .	{Indicator and selective membrane}	2021/8542	. . . . .	{presenting an exposed part of the core}
2021/7753	. . . . .	{Reagent layer on photoelectrical transducer}	2021/855	. . . . .	{Underground probe, e.g. with provision of a penetration tool}
2021/7756	. . . . .	{Sensor type}	2021/8557	. . . . .	{Special shaping of flow, e.g. using a by-pass line, jet flow, curtain flow}
2021/7759	. . . . .	{Dipstick; Test strip}	2021/8564	. . . . .	{Sample as drops}
2021/7763	. . . . .	{Sample through flow}	2021/8571	. . . . .	{using filtering of sample fluid}
2021/7766	. . . . .	{Capillary fill}	2021/8578	. . . . .	{Gaseous flow (IR analysers G01N 21/8507)}
2021/7769	. . . . .	{Measurement method of reaction-produced change in sensor}	2021/8585	. . . . .	{using porous sheets, e.g. for separating aerosols}
2021/7773	. . . . .	{Reflection}	2021/8592	. . . . .	{Grain or other flowing solid samples}
2021/7776	. . . . .	{Index}	21/86	. . . . .	Investigating moving sheets (G01N 21/89 takes precedence)
2021/7779	. . . . .	{interferometric}	2021/8609	. . . . .	{Optical head specially adapted}
2021/7783	. . . . .	{Transmission, loss}	2021/8618	. . . . .	{with an optically integrating part, e.g. hemisphere}
2021/7786	. . . . .	{Fluorescence}	2021/8627	. . . . .	{with an illuminator over the whole width}
2021/7789	. . . . .	{Cavity or resonator}	2021/8636	. . . . .	{Detecting arrangement therefore, e.g. collimators, screens}
2021/7793	. . . . .	{Sensor comprising plural indicators}	2021/8645	. . . . .	{using multidetectors, detector array}
2021/7796	. . . . .	{Special mountings, packaging of indicators}	2021/8654	. . . . .	{Mechanical support; Mounting of sheet}
21/78	. . . . .	producing a change of colour	2021/8663	. . . . .	{Paper, e.g. gloss, moisture content (inspecting the presence of flaws in moving materials, e.g. paper G01N 21/89; measurement of gloss in general G01N 21/57)}
21/783	. . . . .	{for analysing gases}	2021/8672	. . . . .	{Paper formation parameter}
2021/786	. . . . .	{with auxiliary heating for reaction}	2021/8681	. . . . .	{Paper fibre orientation}
21/79	. . . . .	Photometric titration	2021/869	. . . . .	{Plastics or polymeric material, e.g. polymers orientation in plastic, adhesive imprinted band}
21/80	. . . . .	Indicating pH value	21/87	. . . . .	Investigating jewels (G01N 21/88 takes precedence)
21/81	. . . . .	Indicating humidity	21/88	. . . . .	Investigating the presence of flaws or contamination
21/82	. . . . .	producing a precipitate or turbidity	21/8803	. . . . .	{Visual inspection (measuring projectors G01B 9/08)}
2021/825	. . . . .	{Agglutination}	21/8806	. . . . .	{Specially adapted optical and illumination features}
21/83	. . . . .	Turbidimetric titration	2021/8809	. . . . .	{Adjustment for highlighting flaws}
21/84	. . . . .	Systems specially adapted for particular applications	2021/8812	. . . . .	{Diffuse illumination, e.g. "sky"}
2021/8405	. . . . .	{Application to two-phase or mixed materials, e.g. gas dissolved in liquids}	2021/8816	. . . . .	{by using multiple sources, e.g. LEDs}
2021/8411	. . . . .	{Application to online plant, process monitoring}	2021/8819	. . . . .	{by using retroreflecting screen}
2021/8416	. . . . .	{and process controlling, not otherwise provided for}	2021/8822	. . . . .	{Dark field detection}
21/8422	. . . . .	{Investigating thin films, e.g. matrix isolation method}	2021/8825	. . . . .	{Separate detection of dark field and bright field}
2021/8427	. . . . .	{Coatings}	2021/8829	. . . . .	{Shadow projection or structured background, e.g. for deflectometry (three-dimensional metrology of surfaces G01B 11/25)}
2021/8433	. . . . .	{Comparing coated/uncoated parts}	2021/8832	. . . . .	{Structured background, e.g. for transparent objects}
2021/8438	. . . . .	{Mutilayers}	2021/8835	. . . . .	{Adjustable illumination, e.g. software adjustable screen}
2021/8444	. . . . .	{Fibrous material}	2021/8838	. . . . .	{Stroboscopic illumination; synchronised illumination}
2021/845	. . . . .	{Objects on a conveyor}	2021/8841	. . . . .	{Illumination and detection on two sides of object}
2021/8455	. . . . .	{and using position detectors}	2021/8845	. . . . .	{Multiple wavelengths of illumination or detection}
2021/8461	. . . . .	{Investigating impurities in semiconductor, e.g. Silicon}	2021/8848	. . . . .	{Polarisation of light}
2021/8466	. . . . .	{Investigation of vegetal material, e.g. leaves, plants, fruits}			
2021/8472	. . . . .	{Investigation of composite materials}			
2021/8477	. . . . .	{Investigating crystals, e.g. liquid crystals}			
21/8483	. . . . .	{Investigating reagent band (test-element handling not specific to a test method G01N 33/4875; analytical elements specific to chemical analysis of biological material G01N 33/52; autometer with reagent band G01N 35/04)}			
2021/8488	. . . . .	{the band presenting reference patches}			
2021/8494	. . . . .	{Measuring or storing parameters of the band}			
21/85	. . . . .	Investigating moving fluids or granular solids			
21/8507	. . . . .	{Probe photometers, i.e. with optical measuring part dipped into fluid sample}			
2021/8514	. . . . .	{with immersed mirror}			
2021/8521	. . . . .	{with a combination mirror cell-cuvette}			

21/8851	. . .	{Scan or image signal processing specially adapted therefor, e.g. for scan signal adjustment, for detecting different kinds of defects, for compensating for structures, markings, edges (G01N 21/8806 and G01N 21/93 - G01N 21/95692 take precedence; optical measurement of dimensions G01B 11/00 ; optical scanning G02B 26/10 ; image transformation G06T 3/00 ; computerised image enhancement G06T 5/00 ; image processing per se for flaw detection G06T 7/0002)}	2021/8927	. . . . .	{Defects in a structured web}
			2021/8928	. . . . .	{Haze defects, i.e. with a part of diffracted light}
			21/894	. . . . .	Pinholes
			21/896	. . . . .	Optical defects in or on transparent materials, e.g. distortion, surface flaws {in conveyed flat sheet or rod (for other objects G01N 21/958)}
			2021/8962	. . . . .	{for detecting separately opaque flaws and refracting flaws}
			2021/8965	. . . . .	{using slant illumination, using internally reflected light}
			2021/8967	. . . . .	{Discriminating defects on opposite sides or at different depths of sheet or rod}
			21/898	. . . . .	Irregularities in textured or patterned surfaces, e.g. textiles, wood
			21/8983	. . . . .	{for testing textile webs, i.e. woven material}
			21/8986	. . . . .	{Wood}
			21/90	. . .	in a container or its contents (G01N 21/91 takes precedence)
			21/9009	. . . . .	{Non-optical constructional details affecting optical inspection, e.g. cleaning mechanisms for optical parts, vibration reduction}
			21/9018	. . . . .	{Dirt detection in containers}
			21/9027	. . . . .	{in containers after filling}
			21/9036	. . . . .	{using arrays of emitters or receivers}
			21/9045	. . . . .	{Inspection of ornamented or stippled container walls}
			21/9054	. . . . .	{Inspection of sealing surface and container finish}
			2021/9063	. . . . .	{Hot-end container inspection}
			21/9072	. . . . .	{with illumination or detection from inside the container}
			21/9081	. . . . .	{Inspection especially designed for plastic containers, e.g. preforms}
			21/909	. . . . .	{in opaque containers or opaque container parts, e.g. cans, tins, caps, labels}
			21/91	. . .	using penetration of dyes, e.g. fluorescent ink
			21/93	. . .	Detection standards; Calibrating {baseline adjustment, drift correction}
			2021/933	. . . . .	{Adjusting baseline or gain (also for web inspection)}
			2021/936	. . . . .	{Adjusting threshold, e.g. by way of moving average}
			21/94	. . .	Investigating contamination, e.g. dust (G01N 21/85 takes precedence)
			2021/945	. . . . .	{Liquid or solid deposits of macroscopic size on surfaces, e.g. drops, films, or clustered contaminants (dust particles and microscopic contaminants in G01N 21/94)}
			21/95	. . .	characterised by the material or shape of the object to be examined (G01N 21/89 - G01N 21/91 , G01N 21/94 take precedence)
			21/9501	. . . . .	{Semiconductor wafers (manufacturing processes per se of semiconductor devices implementing a measuring step H01L 22/10)}
			21/9503	. . . . .	{Wafer edge inspection}
			21/9505	. . . . .	{Wafer internal defects, e.g. microcracks}
			21/9506	. . . . .	{Optical discs}
			21/9508	. . . . .	{Capsules; Tablets}
2021/8854	. . . . .	{Grading and classifying of flaws}			
2021/8858	. . . . .	{Flaw counting}			
2021/8861	. . . . .	{Determining coordinates of flaws}			
2021/8864	. . . . .	{Mapping zones of defects}			
2021/8867	. . . . .	{using sequentially two or more inspection runs, e.g. coarse and fine, or detecting then analysing}			
2021/887	. . . . .	{the measurements made in two or more directions, angles, positions}			
2021/8874	. . . . .	{Taking dimensions of defect into account}			
2021/8877	. . . . .	{Proximity analysis, local statistics}			
2021/888	. . . . .	{Marking defects}			
2021/8883	. . . . .	{involving the calculation of gauges, generating models}			
2021/8887	. . . . .	{based on image processing techniques}			
2021/889	. . . . .	{providing a bare video image, i.e. without visual measurement aids}			
2021/8893	. . . . .	{providing a video image and a processed signal for helping visual decision}			
2021/8896	. . . . .	{Circuits specially adapted for system specific signal conditioning}			
21/89	. . .	in moving material, e.g. running paper or textiles (G01N 21/90 , G01N 21/91 , G01N 21/94 take precedence)			
21/8901	. . . . .	{Optical details; Scanning details (per se G02B)}			
2021/8902	. . . . .	{Anamorphic spot}			
21/8903	. . . . .	{using a multiple detector array}			
2021/8904	. . . . .	{Sheetwide light conductor on detecting side, e.g. fluorescing light rod}			
2021/8905	. . . . .	{Directional selective optics, e.g. slits, spatial filters}			
2021/8907	. . . . .	{Cylindrical optics}			
2021/8908	. . . . .	{Strip illuminator, e.g. light tube}			
2021/8909	. . . . .	{Scan signal processing specially adapted for inspection of running sheets}			
2021/891	. . . . .	{Edge discrimination, e.g. by signal filtering}			
2021/8911	. . . . .	{Setting scan-width signals}			
2021/8912	. . . . .	{Processing using lane subdivision}			
21/8914	. . . . .	{characterised by the material examined}			
21/8915	. . . . .	{non-woven textile material}			
21/8916	. . . . .	{for testing photographic material}			
2021/8917	. . . . .	{Paper, also ondulated}			
2021/8918	. . . . .	{Metal}			
21/892	. . . . .	characterised by the flaw, defect or object feature examined			
21/8921	. . . . .	{Streaks}			
21/8922	. . . . .	{Periodic flaws}			
2021/8924	. . . . .	{Dents; Relief flaws}			
2021/8925	. . . . .	{Inclusions}			

- 21/951 {Balls}
- 2021/9511 {Optical elements other than lenses, e.g. mirrors (testing of optical apparatus in [G01M 11/00](#))}
- 2021/9513 {Liquid crystal panels}
- 21/9515 {Objects of complex shape, e.g. examined with use of a surface follower device (measuring contours and curvatures [G01B 11/24](#))}
- 2021/9516 {whereby geometrical features are being masked}
- 2021/9518 {using a surface follower, e.g. robot}
- 21/952 Inspecting the exterior surface of cylindrical bodies or wires ([G01N 21/956](#) takes precedence)
- 21/954 Inspecting the inner surface of hollow bodies, e.g. bores
- 2021/9542 {using a probe}
- 2021/9544 {with emitter and receiver on the probe}
- 2021/9546 {with remote light transmitting, e.g. optical fibres}
- 2021/9548 {Scanning the interior of a cylinder}
- 21/956 Inspecting patterns on the surface of objects (contactless testing of electronic circuits [G01R 31/308](#); testing currency [G07D](#) {manufacturing processes per se of semiconductor devices implementing a measuring step [H01L 22/10](#)})
- 21/95607 {using a comparative method}
- 2021/95615 {with stored comparison signal}
- 21/95623 {using a spatial filtering method (per se [G02B](#))}
- 2021/9563 {and suppressing pattern images}
- 2021/95638 {for PCB's}
- 2021/95646 {Soldering}
- 2021/95653 {Through-holes}
- 2021/95661 {for leads, e.g. position, curvature}
- 2021/95669 {for solder coating, coverage}
- 2021/95676 {Masks, reticles, shadow masks}
- 21/95684 {Patterns showing highly reflecting parts, e.g. metallic elements}
- 21/95692 {Patterns showing hole parts, e.g. honeycomb filtering structures}
- 21/958 Inspecting transparent materials {or objects, e.g. windscreens (for conveyed flat sheet or rod [G01N 21/896](#))}
- 2021/9583 {Lenses}
- 2021/9586 {Windscreens}
- 22/00** **Investigating or analysing materials by the use of microwaves or radio waves, i.e. electromagnetic waves with a wavelength of one millimetre or more ([G01N 3/00](#) - [G01N 17/00](#), [G01N 24/00](#) take precedence)**
- 22/005 . . {and using Stark effect modulation}
- 22/02 . . Investigating the presence of flaws
- 22/04 . . Investigating moisture content
- 23/00** **Investigating or analysing materials by the use of wave or particle radiation, e.g. X-rays or neutrons, not covered by groups [G01N 3/00](#) – [G01N 17/00](#), [G01N 21/00](#) or [G01N 22/00](#)**
- 23/005 . . {by using neutrons ([G01N 23/02](#) - [G01N 23/227](#) take precedence)}
- 23/02 . . by transmitting the radiation through the material
- 23/025 . . {using neutrons}
- 23/04 . . and forming images of the material
- 23/041 . . . Phase-contrast imaging, e.g. using grating interferometers
- 23/043 . . . {using fluoroscopic examination, with visual observation or video transmission of fluoroscopic images}
- 23/044 . . . using laminography or tomosynthesis
- 23/046 . . . using tomography, e.g. computed tomography [CT]
- 23/05 . . . using neutrons
- 23/06 . . and measuring the absorption
- 23/083 . . . the radiation being X-rays
- 23/085 X-ray absorption fine structure [XAFS], e.g. extended XAFS [EXAFS]
- 23/087 using polyenergetic X-rays
- 23/09 . . . the radiation being neutrons
- 23/095 . . . Gamma-ray resonance absorption, e.g. using the Mössbauer effect
- 23/10 . . . the material being confined in a container, e.g. in a luggage X-ray scanners
- 23/12 . . . the material being a flowing fluid or a flowing granular solid
- 23/125 {with immersed detecting head}
- 23/16 . . . the material being a moving sheet or film
- 23/18 . . . Investigating the presence of flaws defects or foreign matter
- 23/185 {in tyres}
- 23/20 . . by using diffraction of the radiation by the materials, e.g. for investigating crystal structure; by using scattering of the radiation by the materials, e.g. for investigating non-crystalline materials; by using reflection of the radiation by the materials
- 23/20008 . . Constructional details of analysers, e.g. characterised by X-ray source, detector or optical system; Accessories therefor; Preparing specimens therefor ([monochromators for X-rays using crystals \[G21K 1/06\]\(#\)](#))
- 23/20016 . . . Goniometers
- 23/20025 . . . Sample holders or supports therefor
- 23/20033 provided with temperature control or heating means
- 23/20041 for high pressure testing, e.g. anvil cells
- 23/2005 . . . Preparation of powder samples therefor
- 23/20058 . . Measuring diffraction of electrons, e.g. low energy electron diffraction [LEED] method or reflection high energy electron diffraction [RHEED] method
- 23/20066 . . Measuring inelastic scatter of gamma rays, e.g. Compton effect
- 23/20075 . . {by measuring interferences of X-rays, e.g. Borrmann effect}
- 23/20083 . . {by using a combination of at least two measurements at least one being a transmission measurement and one a scatter measurement}
- 23/20091 . . Measuring the energy-dispersion spectrum [EDS] of diffracted radiation
- 23/201 . . . by measuring small-angle scattering
- 23/202 . . . using neutrons
- 23/203 . . . Measuring back scattering
- 23/204 . . . using neutrons
- 23/205 . . . using diffraction cameras
- 23/2055 . . Analysing diffraction patterns

- 23/207 . . Diffractometry using detectors, e.g. using a probe in a central position and one or more displaceable detectors in circumferential positions
- 23/2073 . . . {using neutron detectors ([neutron spectrometry G01T 3/00](#))}
- 23/2076 . . . {for spectrometry, i.e. using an analysing crystal, e.g. for measuring X-ray fluorescence spectrum of a sample with wavelength-dispersion, i.e. WDXFS}
- 23/22 . . by measuring secondary emission from the material
- NOTE**
- Devices *per se* are classified in the relevant places, e.g. [H01J 37/00](#), [H01J 49/00](#)
- 23/2202 . . Preparing specimens therefor
- 23/2204 . . Specimen supports therefor; Sample conveying means therefore
- 23/2206 . . Combination of two or more measurements, at least one measurement being that of secondary emission, e.g. combination of secondary electron [SE] measurement and back-scattered electron [BSE] measurement
- 23/2208 . . . all measurements being of a secondary emission, e.g. combination of SE measurement and characteristic X-ray measurement
- 23/2209 . . using wavelength dispersive spectroscopy [WDS]
- 23/221 . . by activation analysis
- 23/222 . . . using neutron activation analysis [NAA]
- 23/223 . . by irradiating the sample with X-rays or gamma-rays and by measuring X-ray fluorescence
- 23/225 . . using electron or ion
- 23/2251 . . . using incident electron beams, e.g. scanning electron microscopy [SEM]
- 23/2252 Measuring emitted X-rays, e.g. electron probe microanalysis [EPMA]
- 23/2254 Measuring cathodoluminescence
- 23/2255 . . . using incident ion beams, e.g. proton beams
- 23/2257 Measuring excited X-rays, i.e. particle-induced X-ray emission [PIXE]
- 23/2258 Measuring secondary ion emission, e.g. secondary ion mass spectrometry [SIMS] ([mass-to-charge ratio analysis aspects of SIMS for material analysis G01N 27/62](#))
- 23/227 . . Measuring photoelectric effect, e.g. photoelectron emission microscopy [PEEM]
- 23/2273 . . . Measuring photoelectron spectrum, e.g. electron spectroscopy for chemical analysis [ESCA] or X-ray photoelectron spectroscopy [XPS]
- 23/2276 . . . using the Auger effect, e.g. Auger electron spectroscopy [AES]
- 24/00 Investigating or analyzing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects**
- 24/002 . {Using resonance on molecular beams ([atomic clocks G04F 5/14](#); [beam masers H01S 1/06](#))}
- 24/004 . {Using acoustical resonance, i.e. phonon interactions}
- 24/006 . {using optical pumping ([magnetometers using optical pumping G01R 33/26](#), [optical pumping of lasers H01S 3/091](#))}
- 24/008 . {by using resonance effects in zero field, e.g. in microwave, submillimetric region ([by measuring absorption of microwaves by the material G01N 22/00](#))}
- 24/08 . by using nuclear magnetic resonance ([G01N 24/12 takes precedence](#))
- 24/081 . . {Making measurements of geologic samples, e.g. measurements of moisture, pH, porosity, permeability, tortuosity or viscosity}
- 24/082 . . {Measurement of solid, liquid or gas content}
- 24/084 . . {Detection of potentially hazardous samples, e.g. toxic samples, explosives, drugs, firearms, weapons}
- 24/085 . . {Analysis of materials for the purpose of controlling industrial production systems}
- 24/087 . . {Structure determination of a chemical compound, e.g. of a biomolecule such as a protein}
- 24/088 . . {Assessment or manipulation of a chemical or biochemical reaction, e.g. verification whether a chemical reaction occurred or whether a ligand binds to a receptor in drug screening or assessing reaction kinetics}
- 24/10 . by using electron paramagnetic resonance ([G01N 24/12 takes precedence](#))
- 24/12 . by using double resonance
- 24/14 . by using cyclotron resonance
- 25/00 Investigating or analyzing materials by the use of thermal means ([G01N 3/00](#) - [G01N 23/00](#) take precedence)**
- 25/005 . {by investigating specific heat}
- 25/02 . by investigating changes of state or changes of phase; by investigating sintering ({[investigating or analysing oils or hydrocarbon fluids by measuring cloud point or pour point G01N 33/2811](#)})
- 25/04 . . of melting point; of freezing point; of softening point
- 25/06 . . . Analysis by measuring change of freezing point
- 25/08 . . of boiling point
- 25/085 . . . {Investigating nucleation}
- 25/10 . . . Analysis by measuring change of boiling point
- 25/12 . . of critical point; of other phase change
- 25/14 . by using distillation, extraction, sublimation, condensation, freezing, or crystallisation ([G01N 25/02 takes precedence](#))
- 25/142 . . {by condensation}
- 25/145 . . {Accessories, e.g. cooling devices ([in general B01L, F25D](#))}
- 25/147 . . {by crystallisation}
- 25/16 . by investigating thermal coefficient of expansion
- 25/18 . by investigating thermal conductivity ([by calorimetry G01N 25/20](#); [by measuring change of resistance of an electrically-heated body G01N 27/18](#))
- 25/20 . by investigating the development of heat, i.e. calorimetry, e.g. by measuring specific heat, by measuring thermal conductivity ([calorimeters per se G01K](#))
- 25/22 . . on combustion or catalytic oxidation, e.g. of components of gas mixtures
- 25/24 . . . using combustion tubes, e.g. for microanalysis
- 25/26 . . . using combustion with oxygen under pressure, e.g. in bomb calorimeter

- 25/28 . . . the rise in temperature of the gases resulting from combustion being measured directly
- 25/30 using electric temperature-responsive elements
- 25/32 using thermoelectric elements
- 25/34 using mechanical temperature-responsive elements, e.g. bimetallic ([bimetallic elements per se G12B 1/02](#))
- 25/36 for investigating the composition of gas mixtures
- 25/38 using the melting or combustion of a solid
- 25/385 {for investigating the composition of gas mixtures}
- 25/40 . . . the heat developed being transferred to a flowing fluid
- 25/42 continuously
- 25/44 . . . the heat developed being transferred to a fixed quantity of fluid
- 25/46 for investigating the composition of gas mixtures
- 25/48 . . on solution, sorption, or a chemical reaction not involving combustion or catalytic oxidation
- 25/4806 . . . {Details not adapted to a particular type of sample}
- 25/4813 {concerning the measuring means}
- 25/482 {concerning the temperature responsive elements (measuring temperature or quantity of heat, thermally-sensitive elements [G01K](#); thermoelectric devices [H01L 35/00](#), [H01L 37/00](#))}
- 25/4826 {concerning the heating or cooling arrangements (heating apparatus for chemical or physical laboratory apparatus in general [B01L 7/00](#))}
- 25/4833 {specially adapted for temperature scanning}
- 25/484 {Heat insulation}
- 25/4846 . . . {for a motionless, e.g. solid sample}
- 25/4853 {Details}
- 25/486 {Sample holders}
- 25/4866 {by using a differential method}
- 25/4873 . . . {for a flowing, e.g. gas sample}
- 25/488 {Details}
- 25/4886 {concerning the circulation of the sample}
- 25/4893 {by using a differential method}
- 25/50 . by investigating flash-point; by investigating explosibility
- 25/52 . . by determining flash-point of liquids
- 25/54 . . by determining explosibility
- 25/56 . by investigating moisture content
- 25/58 . . by measuring changes of properties of the material due to heat, cold or expansion
- 25/60 . . . for determining the wetness of steam
- 25/62 . . by psychrometric means, e.g. wet-and-dry bulb thermometers
- 25/64 . . . using electric temperature-responsive elements
- 25/66 . . by investigating dew-point
- 25/68 . . . by varying the temperature of a condensing surface
- 25/70 . . . by varying the temperature of the material, e.g. by compression, by expansion
- 25/72 . Investigating presence of flaws
- 27/00 Investigating or analysing materials by the use of electric, electrochemical, or magnetic means ([G01N 3/00](#) – [G01N 25/00](#) take precedence; measurement or testing of electric or magnetic variables or of electric or magnetic properties of materials [G01R](#))**
- 27/002 . {by investigating the work function voltage}
- 27/005 . . {by determining the work function in vacuum}
- 27/007 . {by investigating the electric dipolar moment (measuring piezo-electric properties [G01R 29/22](#))}
- 27/02 . by investigating impedance
- 27/021 . . {before and after chemical transformation of the material}
- 27/023 . . {where the material is placed in the field of a coil}
- 27/025 . . . {a current being generated within the material by induction}
- 27/026 . . {Dielectric impedance spectroscopy (electrochemical impedance spectroscopy for measuring corrosion [G01N 17/02](#))}
- 27/028 . . {Circuits therefor (measuring impedance [per se G01R 27/02](#))}
- 27/04 . . by investigating resistance
- 27/041 . . . {of a solid body}
- 27/043 . . . {of a granular material}
- 27/045 . . . {Circuits (measuring resistance [per se G01R 27/00](#), e.g. [G01R 27/22](#))}
- 27/046 {provided with temperature compensation}
- 27/048 . . . {for determining moisture content of the material}
- 27/06 . . . of a liquid (involving electrolysis [G01N 27/26](#))
- 27/07 Construction of measuring vessels; Electrodes therefor
- 27/08 which is flowing continuously
- 27/10 Investigation or analysis specially adapted for controlling or monitoring operations or for signalling
- 27/12 . . . of a solid body in dependence upon absorption of a fluid; of a solid body in dependence upon reaction with a fluid {, for detecting components in the fluid}
- 27/121 {for determining moisture content, e.g. humidity, of the fluid (moisture content of the tested material [G01N 27/048](#))}
- 27/122 {Circuits particularly adapted therefor, e.g. linearising circuits}
- 27/123 {for controlling the temperature (temperature control [per se G05D 23/00](#))}
- 27/124 {varying the temperature, e.g. in a cyclic manner}
- 27/125 {Composition of the body, e.g. the composition of its sensitive layer}
- 27/126 {comprising organic polymers}
- 27/127 {comprising nanoparticles}
- 27/128 {Microapparatus}
- 27/129 {Diode type sensors, e.g. gas sensitive Schottky diodes (capacitor type sensors [G01N 27/227](#); field-effect transistor type sensors [G01N 27/414](#))}
- 27/14 . . . of an electrically-heated body in dependence upon change of temperature
- 27/16 caused by burning or catalytic oxidation of surrounding material to be tested, e.g. of gas

- 27/18 caused by changes in the thermal conductivity of a surrounding material to be tested ([G01N 27/20](#) takes precedence)
- 27/185 {using a catharometer}
- 27/20 . . . Investigating the presence of flaws
- 27/205 {in insulating materials}
- 27/22 . . by investigating capacitance
- 27/221 . . . {by investigating the dielectric properties (using microwaves [G01N 22/00](#); measuring loss factors or dielectric constants [per se G01R 27/26](#))}
- 2027/222 {for analysing gases}
- 27/223 . . . {for determining moisture content, e.g. humidity (rain detectors on vehicle windows [B60S 1/0825](#))}
- 27/225 {by using hygroscopic materials}
- 27/226 . . . {Construction of measuring vessels; Electrodes therefor}
- 27/227 . . . {Sensors changing capacitance upon adsorption or absorption of fluid components, e.g. electrolyte-insulator-semiconductor sensors, MOS capacitors ([G01N 27/225](#) takes precedence)}
- 27/228 . . . {Circuits therefor (measuring capacitance [per se G01R 27/26](#))}
- 27/24 . . . Investigating the presence of flaws
- 27/26 . . by investigating electrochemical variables; by using electrolysis or electrophoresis
- 27/27 . . Association of two or more measuring systems or cells, each measuring a different parameter, where the measurement results may be either used independently, the systems or cells being physically associated, or combined to produce a value for a further parameter
- 27/28 . . Electrolytic cell components
- 27/283 . . . {Means for supporting or introducing electrochemical probes}
- 27/286 {Power or signal connectors associated therewith}
- 27/30 . . . Electrodes, e.g. test electrodes; Half-cells ([G01N 27/414](#) takes precedence)
- 27/301 {Reference electrodes}
- 27/302 {pH sensitive, e.g. quinhydrone, antimony or hydrogen electrodes (ion selective electrodes [G01N 27/333](#), glass electrodes [G01N 27/36](#))}
- 27/304 {Gas permeable electrodes}
- 27/305 {optically transparent or photoresponsive electrodes}
- 27/307 {Disposable laminated or multilayered electrodes ([G01N 27/3272](#) takes precedence)}
- 27/308 {at least partially made of carbon}
- 27/31 Half-cells with permeable membranes, e.g. semi-porous or perm-selective membranes
- 27/32 Calomel electrodes
- 27/327 Biochemical electrodes {, e.g. electrical or mechanical details for [in vitro](#) measurements}
- 27/3271 {Amperometric enzyme electrodes for analytes in body fluids, e.g. glucose in blood (amperometry [per se G01N 27/49](#); aspects concerning the enzyme reagent [C12Q 1/001](#))}
- 27/3272 {Test elements therefor, i.e. disposable laminated substrates with electrodes, reagent and channels (optical biosensors [G01N 33/52](#))}
- 27/3273 {Devices therefor, e.g. test element readers, circuitry (details not specific to biochemical electrodes [G01N 33/4875](#))}
- 27/3274 {Corrective measures, e.g. error detection, compensation for temperature or hematocrit, calibration (coding of calibration information [G01N 33/48771](#))}
- 27/3275 {Sensing specific biomolecules, e.g. nucleic acid strands, based on an electrode surface reaction}
- 27/3276 {being a hybridisation with immobilised receptors (using a FET type sensor [G01N 27/4145](#); concerning the hybridisation [C12Q 1/68](#))}
- 27/3277 {being a redox reaction, e.g. detection by cyclic voltammetry (voltammetry [per se G01N 27/42](#), [G01N 27/48](#))}
- 27/3278 {involving nanosized elements, e.g. nanogaps or nanoparticles (nanopores [G01N 33/48721](#); magnetic beads [G01N 27/745](#))}
- 27/333 Ion-selective electrodes or membranes (glass electrodes [G01N 27/36](#))
- 27/3335 {the membrane containing at least one organic component ([G01N 27/3271](#) takes precedence; aspects concerning the enzyme reagent in enzyme electrodes [C12Q 1/001](#))}
- 27/34 Dropping-mercury electrodes
- 27/36 Glass electrodes
- 27/38 Cleaning of electrodes
- 27/40 Semi-permeable membranes or partitions
- 27/401 Salt-bridge leaks; Liquid junctions
- 27/403 Cells and electrode assemblies
- 27/4035 {Combination of a single ion-sensing electrode and a single reference electrode ([G01N 27/406](#) and [G01N 27/413](#) take precedence)}
- 27/404 Cells with anode, cathode and cell electrolyte on the same side of a permeable membrane which separates them from the sample fluid {, e.g. Clark-type oxygen sensors}
- 27/4045 {for gases other than oxygen}
- 27/406 Cells and probes with solid electrolytes
- 27/4062 {Electrical connectors associated therewith}
- 27/4065 {Circuit arrangements specially adapted therefor}
- 27/4067 {Means for heating or controlling the temperature of the solid electrolyte}
- 27/407 for investigating or analysing gases {([G01N 27/411](#) takes precedence)}
- 27/4071 {using sensor elements of laminated structure}
- 27/4072 {characterized by the diffusion barrier}
- 27/4073 {Composition or fabrication of the solid electrolyte}
- 27/4074 {for detection of gases other than oxygen}

- 27/4075 {Composition or fabrication of the electrodes and coatings thereon, e.g. catalysts}
- 27/4076 {Reference electrodes or reference mixtures}
- 27/4077 {Means for protecting the electrolyte or the electrodes}
- 27/4078 {Means for sealing the sensor element in a housing}
- 27/409 Oxygen concentration cells
- 27/41 Oxygen pumping cells
- 27/411 for investigating or analysing of liquid metals
- 27/4111 {using sensor elements of laminated structure}
- 27/4112 {Composition or fabrication of the solid electrolyte}
- 27/4114 {for detection of gases other than oxygen}
- 27/4115 {Composition or fabrication of the electrodes and coatings thereon, e.g. catalysts}
- 27/4117 {Reference electrodes or reference mixtures}
- 27/4118 {Means for protecting the electrolyte or the electrodes}
- 27/413 Concentration cells using liquid electrolytes {measuring currents or voltages in voltaic cells}
- 27/414 Ion-sensitive or chemical field-effect transistors, i.e. ISFETS or CHEMFETS
- 27/4141 {specially adapted for gases}
- 27/4143 {Air gap between gate and channel, i.e. suspended gate [SG] FETs ([work function measurement per se G01N 27/002](#))}
- 27/4145 {specially adapted for biomolecules, e.g. gate electrode with immobilised receptors}
- 27/4146 {involving nanosized elements, e.g. nanotubes, nanowires}
- 27/4148 {Integrated circuits therefor, e.g. fabricated by CMOS processing ([CMOS processing per se H01L 21/82](#))}
- 27/416 Systems ([G01N 27/27 takes precedence](#))
- 27/4161 {measuring the voltage and using a constant current supply, e.g. chronopotentiometry}
- 27/4162 {investigating the composition of gases, by the influence exerted on ionic conductivity in a liquid ([conductometry in general G01N 27/06](#); [amperometric gas sensors G01N 27/404](#))}
- 27/4163 {checking the operation of, or calibrating, the measuring apparatus ([G01N 27/3274](#), [G01N 27/4175](#) and [G01N 33/0006 take precedence](#))}
- 27/4165 {for pH meters}
- 27/4166 {measuring a particular property of an electrolyte}
- 27/4167 {pH (electrodes therefor [G01N 27/302](#), [G01N 27/36](#))}
- 27/4168 {Oxidation-reduction potential, e.g. for chlorination of water ([water analysis G01N 33/18](#))}
- 27/417 using cells {, i.e. more than one cell} and probes with solid electrolytes
- 27/4175 {Calibrating or checking the analyser}
- 27/419 Measuring voltages or currents with a combination of oxygen pumping cells and oxygen concentration cells
- 27/42 Measuring deposition or liberation of materials from an electrolyte; Coulometry, i.e. measuring coulomb-equivalent of material in an electrolyte
- 27/423 {Coulometry}
- 27/426 {by weighing}
- 27/44 using electrolysis to generate a reagent, e.g. for titration
- 27/447 using electrophoresis
- 27/44704 {Details; Accessories}
- 27/44708 {Cooling}
- 27/44713 {Particularly adapted electric power supply}
- 27/44717 {Arrangements for investigating the separated zones, e.g. localising zones}
- 27/44721 {by optical means}
- 27/44726 {using specific dyes, markers or binding molecules}
- 27/4473 {by electric means}
- 27/44734 {by thermal means}
- 27/44739 {Collecting the separated zones, e.g. blotting to a membrane or punching of gel spots}
- 27/44743 {Introducing samples}
- 27/44747 {Composition of gel or of carrier mixture}
- 27/44752 {Controlling the zeta potential, e.g. by wall coatings}
- 27/44756 {Apparatus specially adapted therefor}
- 27/4476 {of the density gradient type}
- 27/44765 {of the counter-flow type}
- 27/44769 {Continuous electrophoresis, i.e. the sample being continuously introduced, e.g. free flow electrophoresis [FFE]}
- 27/44773 {Multi-stage electrophoresis, e.g. two-dimensional electrophoresis}
- 27/44778 {on a common gel carrier, i.e. 2D gel electrophoresis}
- 27/44782 {of a plurality of samples}
- 27/44786 {of the magneto-electrophoresis type}
- 27/44791 {Microapparatus ([sample containers with integrated microfluidic structures B01L 3/5027](#))}
- 27/44795 {Isoelectric focusing}
- 27/453 Cells therefor
- 27/48 using polarography, i.e. measuring changes in current under a slowly-varying voltage
- 27/49 Systems involving the determination of the current at a single specific value, or small range of values, of applied voltage for producing selective measurement of one or more particular ionic species
- 27/60 by investigating electrostatic variables {, e.g. electrographic flaw testing ([G01N 27/007 takes precedence](#))}
- 27/605 {for determining moisture content, e.g. humidity}
- 27/61 Investigating the presence of flaws

- 27/62 . . . by investigating the ionisation of gases, e.g. aerosols; by investigating electric discharges, e.g. emission of cathode
- WARNING**
- Group [G01N 27/62](#) is impacted by reclassification into group [G01N 27/623](#).
- Groups [G01N 27/62](#) and [G01N 27/623](#) should be considered in order to perform a complete search.
- 27/622 . . . Ion mobility spectrometry
- WARNING**
- Group [G01N 27/622](#) is impacted by reclassification into group [G01N 27/623](#).
- Groups [G01N 27/62](#) and [G01N 27/623](#) should be considered in order to perform a complete search.
- 27/623 . . . combined with mass spectrometry
- WARNING**
- Group [G01N 27/623](#) is incomplete pending reclassification of documents from groups [G01N 27/62](#) and [G01N 27/622](#).
- Groups [G01N 27/62](#), [G01N 27/622](#), and [G01N 27/623](#) should be considered in order to perform a complete search.
- 27/624 . . . Differential mobility spectrometry [DMS]; Field asymmetric-waveform ion mobility spectrometry [FAIMS]
- 27/626 . . . using heat to ionise a gas
- 27/628 . . . {and a beam of energy, e.g. laser enhanced ionisation}
- 27/64 . . . using wave or particle radiation to ionise a gas, e.g. in an ionisation chamber
- 27/66 . . . and measuring current or voltage
- 27/68 . . . using electric discharge to ionise a gas
- 27/70 . . . and measuring current or voltage
- 27/72 . . . by investigating magnetic variables
- 27/725 . . . {by using magneto-acoustical effects or the Barkhausen effect}
- 27/74 . . . of fluids ([G01N 24/00](#) takes precedence)
- 27/745 . . . {for detecting magnetic beads used in biochemical assays (concerning the assays [G01N 33/54326](#); sensors therefor [G01R 33/1269](#); automatic analysers therefor [G01N 35/0098](#))}
- 27/76 . . . by investigating susceptibility
- 27/80 . . . for investigating mechanical hardness, e.g. by investigating saturation or remanence of ferromagnetic material
- 27/82 . . . for investigating the presence of flaws
- 27/825 . . . {by using magnetic attraction force ([G01N 27/84](#) takes precedence)}
- 27/83 . . . by investigating stray magnetic fields
- 27/84 by applying magnetic powder or magnetic ink
- 27/85 using magnetographic methods
- 27/87 using probes
- 27/90 using eddy currents
- 27/9006 {Details, e.g. in the structure or functioning of sensors}
- 27/9013 Arrangements for scanning
- 27/902 {by moving the sensors}
- 27/9026 {by moving the material}
- 27/904 with two or more sensors
- 27/9046 {by analysing electrical signals}
- 27/9053 {Compensating for probe to workpiece spacing}
- 27/906 {Compensating for velocity}
- 27/9066 {by measuring the propagation time, or delaying the signals}
- 27/9073 {Recording measured data}
- 27/908 {synchronously with scanning}
- 27/9086 {Calibrating of recording device}
- 27/9093 Arrangements for supporting the sensor; Combinations of eddy-current sensors and auxiliary arrangements for marking or for rejecting
- 27/92 . . . by investigating breakdown voltage ([G01N 27/60](#), [G01N 27/62](#) take precedence)
- 29/00 Investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves; Visualisation of the interior of objects by transmitting ultrasonic or sonic waves through the object ([G01N 3/00](#), [G01N 5/00](#), [G01N 7/00](#), [G01N 9/00](#), [G01N 11/00](#), [G01N 13/00](#), [G01N 15/00](#), [G01N 17/00](#), [G01N 19/00](#), [G01N 21/00](#), [G01N 22/00](#), [G01N 23/00](#), [G01N 24/00](#), [G01N 25/00](#), [G01N 27/00](#) take precedence)**
- 29/02 . . . Analysing fluids (using acoustic emission techniques [G01N 29/14](#) {; constructional or flow details for analysing fluids [G01N 29/222](#); optoacoustic fluid cells [G01N 29/2425](#))
- 29/022 . . . {Fluid sensors based on microsensors, e.g. quartz crystal-microbalance [QCM], surface acoustic wave [SAW] devices, tuning forks, cantilevers, flexural plate wave [FPW] devices ([microdevices per se B81B](#))}
- 29/024 . . . by measuring propagation velocity or propagation time of acoustic waves
- 29/028 . . . by measuring mechanical or acoustic impedance
- 29/032 . . . by measuring attenuation of acoustic waves
- 29/036 . . . by measuring frequency or resonance of acoustic waves
- 29/04 . . . Analysing solids (using acoustic emission techniques [G01N 29/14](#))
- 29/041 . . . {on the surface of the material, e.g. using Lamb, Rayleigh or shear waves}
- 29/043 . . . {in the interior, e.g. by shear waves}
- 29/045 . . . {by imparting shocks to the workpiece and detecting the vibrations or the acoustic waves caused by the shocks (measuring resonant frequency [G01H 13/00](#); measuring strength properties by application of mechanical stress [G01N 3/00](#))}
- 29/046 . . . {using the echo of particles imparting on a surface; using acoustic emission of particles (investigating concentration of particle suspensions [G01N 15/06](#); devices for measuring flow of solids in suspension [G01F 1/74](#))}
- 29/048 . . . {Marking the faulty objects}

- 29/06 . . Visualisation of the interior, e.g. acoustic microscopy {(medical or veterinary diagnosis using sonic waves [A61B 8/00](#); representation of acoustic wave distribution [G01H 3/125](#), [G01H 9/002](#); short-range imaging systems using reflection of acoustic waves [G01S 15/8906](#))}
- 29/0609 . . . {Display arrangements, e.g. colour displays (indicating or recording in connection with measuring in general [G01D](#))}
- 29/0618 {synchronised with scanning, e.g. in real-time}
- 29/0627 {Cathode-ray tube displays (in general [G01R 13/20](#))}
- 29/0636 {with permanent recording}
- 29/0645 {Display representation or displayed parameters, e.g. A-, B- or C-Scan}
- 29/0654 . . . {Imaging}
- 29/0663 {by acoustic holography (acoustical holography per se [G03H 3/00](#))}
- 29/0672 {by acoustic tomography (medical tomography [A61B 8/13](#))}
- 29/0681 {by acoustic microscopy, e.g. scanning acoustic microscopy}
- 29/069 {Defect imaging, localisation and sizing using, e.g. time of flight diffraction [TOFD], synthetic aperture focusing technique [SAFT], Amplituden-Laufzeit-Ortskurven [ALOK] technique}
- 29/07 . . by measuring propagation velocity or propagation time of acoustic waves
- 29/075 . . . {by measuring or comparing phase angle (measuring frequencies or phase angles per se [G01R 23/00](#), [G01R 25/00](#))}
- 29/09 . . by measuring mechanical or acoustic impedance
- 29/11 . . by measuring attenuation of acoustic waves
- 29/12 . . by measuring frequency or resonance of acoustic waves {(measuring frequency or resonant frequency of mechanical vibrations or acoustic waves in general [G01H 1/06](#), [G01H 3/04](#), [G01H 13/00](#); acoustic resonators [G10K 11/04](#); vibration or shock testing of structures [G01M 7/00](#))}
- 29/14 . . using acoustic emission techniques {(echo of particles [G01N 29/046](#); measuring mechanical vibrations or acoustic waves in solids in general [G01H 1/00](#))}
- 29/22 . . Details {, e.g. general constructional or apparatus details}
- 29/221 . . {Arrangements for directing or focusing the acoustical waves (electronic orientation or focusing [G01N 29/262](#); sound directing or focusing [G10K 11/26](#); mechanical steering of sound transducers or their beams [G10K 11/35](#))}
- 29/222 . . {Constructional or flow details for analysing fluids (optoacoustic fluid cells [G01N 29/2425](#))}
- 29/223 . . {Supports, positioning or alignment in fixed situation (mounting transducers per se [G10K 11/004](#))}
- 29/225 . . {Supports, positioning or alignment in moving situation}
- 29/226 . . . {Handheld or portable devices}
- 29/227 . . {related to high pressure, tension or stress conditions}
- 29/228 . . {related to high temperature conditions}
- 29/24 . . Probes {(transducers for acoustic waves [B06B](#), [G10K](#); for measuring [G01H](#))}
- 29/2406 . . . {Electrostatic or capacitive probes, e.g. electret or cMUT-probes}
- 29/2412 . . . {using the magnetostrictive properties of the material to be examined, e.g. electromagnetic acoustic transducers [EMAT]; (investigating the presence of flaws using eddy currents [G01N 27/90](#), magnetostrictive transducers [B06B 1/08](#), measuring magnetostrictive properties [G01R 33/18](#))}
- 29/2418 . . . {using optoacoustic interaction with the material, e.g. laser radiation, photoacoustics (photoacoustic cells [G01N 21/1702](#); measuring characteristics of vibrations by using radiation-sensitive means [G01H 9/00](#); acousto-optical conversion techniques for short-range imaging [G01S 15/8965](#); sound-producing devices using laser bundle [G10K 15/046](#))}
- 29/2425 {optoacoustic fluid cells therefor}
- 29/2431 . . . {using other means for acoustic excitation, e.g. heat, microwaves, electron beams (sound producing devices not otherwise provided for [G10K 15/04](#))}
- 29/2437 . . . {Piezoelectric probes}
- 29/2443 {Quartz crystal probes}
- 29/245 {Ceramic probes, e.g. lead zirconate titanate [PZT] probes}
- 29/2456 . . . {Focusing probes (focusing arrangements [G01N 29/221](#))}
- 29/2462 . . . {Probes with waveguides, e.g. SAW devices}
- 29/2468 . . . {Probes with delay lines}
- 29/2475 . . . {Embedded probes, i.e. probes incorporated in objects to be inspected}
- 29/2481 . . . {Wireless probes, e.g. with transponders or radio links}
- 29/2487 . . . {Directing probes, e.g. angle probes (directing arrangements [G01N 29/221](#))}
- 29/2493 . . . {Wheel shaped probes}
- 29/26 . . Arrangements for orientation or scanning {by relative movement of the head and the sensor (mechanical steering of sound transducers or their beams [G10K 11/35](#))}
- 29/262 . . . {by electronic orientation or focusing, e.g. with phased arrays (phased arrays per se [G10K 11/34](#))}
- 29/265 . . . by moving the sensor relative to a stationary material
- 29/27 . . . by moving the material relative to a stationary sensor
- 29/275 . . . by moving both the sensor and the material
- 29/28 . . providing acoustic coupling {, e.g. water (impedance matching [G10K 11/02](#))}
- 29/30 . . Arrangements for calibrating or comparing, e.g. with standard objects
- 29/32 . . Arrangements for suppressing undesired influences, e.g. temperature or pressure variations {, compensating for signal noise}
- 29/323 . . . {compensating for pressure or tension variations}
- 29/326 . . . {compensating for temperature variations}
- 29/34 . . Generating the ultrasonic, sonic or infrasonic waves {, e.g. electronic circuits specially adapted therefor}
- 29/341 . . {with time characteristics}

- 29/343 . . . {pulse waves, e.g. particular sequence of pulses, bursts}
- 29/345 . . . {continuous waves}
- 29/346 . . {with amplitude characteristics, e.g. modulated signal}
- 29/348 . . {with frequency characteristics, e.g. single frequency signals, chirp signals (measuring frequency of mechanical vibrations or acoustic waves in general [G01H 1/06](#), [G01H 3/04](#); measuring frequency or analysing frequency spectra [G01R 23/00](#))}
- 29/36 . Detecting the response signal {, e.g. electronic circuits specially adapted therefor}
- 29/38 . . by time filtering, e.g. using time gates
- 29/40 . . by amplitude filtering, e.g. by applying a threshold {or by gain control}
- 29/42 . . by frequency filtering {or by tuning to resonant frequency}
- 29/44 . Processing the detected response signal {, e.g. electronic circuits specially adapted therefor ([digital signal processing per se G06F 17/00](#))}
- 29/4409 . . {by comparison}
- 29/4418 . . . {with a model, e.g. best-fit, regression analysis}
- 29/4427 . . . {with stored values, e.g. threshold values}
- 29/4436 . . . {with a reference signal ([amplitude comparison G01N 29/48](#))}
- 29/4445 . . {Classification of defects}
- 29/4454 . . {Signal recognition, e.g. specific values or portions, signal events, signatures}
- 29/4463 . . {Signal correction, e.g. distance amplitude correction [DAC], distance gain size [DGS], noise filtering}
- 29/4472 . . {Mathematical theories or simulation}
- 29/4481 . . {Neural networks}
- 29/449 . . {Statistical methods not provided for in [G01N 29/4409](#), e.g. averaging, smoothing and interpolation}
- 29/46 . . by spectral analysis, e.g. Fourier analysis {or wavelet analysis ([spectral signal processing per se G06F 17/14](#))}
- 29/48 . . by amplitude comparison
- 29/50 . . using auto-correlation techniques or cross-correlation techniques
- 29/52 . . using inversion methods other than spectral analysis, e.g. conjugated gradient inversion
- 30/00 Investigating or analysing materials by separation into components using adsorption, absorption or similar phenomena or using ion-exchange, e.g. chromatography {or field flow fractionation} ([G01N 3/00](#), [G01N 5/00](#), [G01N 7/00](#), [G01N 9/00](#), [G01N 11/00](#), [G01N 13/00](#), [G01N 15/00](#), [G01N 17/00](#), [G01N 19/00](#), [G01N 21/00](#), [G01N 22/00](#), [G01N 23/00](#), [G01N 24/00](#), [G01N 25/00](#), [G01N 27/00](#), [G01N 29/00](#) take precedence)**
- NOTE**
- In this group, the following term is used with the meaning indicated:
- "conditioning" refers to the adjustment or control of environmental parameters, e.g. temperature or pressure.
- 30/0005 . {Field flow fractionation}
- 2030/001 . . {hydrodynamic fractionation, e.g. CHDF or HDC}
- 2030/0015 . . {characterised by driving force}
- 2030/002 . . . {sedimentation or centrifugal FFF}
- 2030/0025 . . . {cross flow FFF}
- 2030/003 {Asymmetrical flow}
- 2030/0035 . . . {electrical field}
- 2030/004 . . {characterised by opposing force}
- 2030/0045 . . . {normal, i.e. diffusion or thermal FFF}
- 2030/005 . . . {steric FFF, i.e. diffusion negligible for larger particles; separation due to protrusion depth into carrier flow profile}
- 2030/0055 . . . {hyperlayer, i.e. different particle populations in hyperlayers elevated above wall}
- 2030/006 {lift hyperlayer, i.e. hydrodynamic lift forces dominate steric effect}
- 2030/0065 . . . {Dielectric FFF, i.e. opposing forces dominate hydrodynamic lift forces and steric effects}
- 2030/007 . . {programming of driving force ([carrier programming G01N 30/02](#))}
- 2030/0075 . {Separation due to differential desorption}
- 2030/008 . . {Thermal desorption}
- 2030/0085 . . {the desorption energy being adapted to sample, e.g. laser tuned to molecular bonds}
- 2030/009 . {Extraction}
- 2030/0095 . {Separation specially adapted for use outside laboratory, e.g. field sampling, portable equipments}
- 30/02 . Column chromatography
- 2030/022 . . {characterised by the kind of separation mechanism}
- 2030/025 . . . {Gas chromatography}
- 2030/027 . . . {Liquid chromatography}
- 30/04 . . Preparation or injection of sample to be analysed
- 2030/042 . . . {Standards}
- 2030/045 {internal}
- 2030/047 {external}
- 30/06 . . . Preparation
- 2030/062 {extracting sample from raw material}
- 2030/065 {using different phases to separate parts of sample}
- 2030/067 {by reaction, e.g. derivatising the sample}
- 30/08 using an enricher
- 2030/085 {using absorbing precolumn}
- 30/10 using a splitter
- 30/12 by evaporation
- 2030/121 {cooling; cold traps}
- 2030/122 {cryogenic focusing}
- 2030/123 {using more than one trap}
- 2030/125 {pyrolysing}
- 2030/126 {evaporating sample}
- 2030/127 {PTV evaporation}
- 2030/128 {Thermal desorption analysis}
- 30/14 by elimination of some components
- 2030/143 {selective absorption}
- 2030/146 {using membranes}
- 30/16 . . . Injection ([G01N 30/24 takes precedence](#))
- 2030/162 {electromigration}
- 2030/165 {retention gaps}
- 2030/167 {on-column injection}
- 30/18 using a septum or microsyringe
- 2030/185 {specially adapted to seal the inlet}

- 30/20 using a sampling valve
- 2030/201 {multiport valves, i.e. having more than two ports}
- 2030/202 {rotary valves}
- 2030/204 {Linearly moving valves, e.g. sliding valves}
- 2030/205 {Diaphragm valves, e.g. deformed member closing the passage}
- 2030/207 {with metering cavity, e.g. sample loop}
- 2030/208 {with more than one cavity}
- 30/22 in high pressure liquid systems
- 30/24 Automatic injection systems
- 30/26 Conditioning of the fluid carrier; Flow patterns
- 30/28 Control of physical parameters of the fluid carrier
- 2030/285 {electrically driven carrier}
- 30/30 of temperature
- 2030/3007 {same temperature for whole column}
- 2030/3015 {temperature gradients along column}
- 2030/3023 {using cryogenic fluids}
- 2030/303 {using peltier elements}
- 2030/3038 {temperature control of column exit, e.g. of restrictors}
- 2030/3046 {temperature control of column inlet}
- 2030/3053 {using resistive heating}
- 2030/3061 {column or associated structural member used as heater}
- 2030/3069 {electrical resistance used to determine control temperature}
- 2030/3076 {using specially adapted T(t) profile}
- 2030/3084 {ovens}
- 2030/3092 {Heat exchange between incoming and outgoing mobile phase}
- 30/32 of pressure or speed ([G01N 30/36](#) takes precedence)
- 2030/322 {pulse dampers}
- 2030/324 {speed, flow rate}
- 2030/326 {pumps}
- 2030/328 {valves, e.g. check valves of pumps}
- 30/34 of fluid composition, e.g. gradient ([G01N 30/36](#) takes precedence)
- 2030/342 {fluid composition fixed during analysis}
- 2030/345 {fluid electrical conductivity fixed during analysis}
- 2030/347 {mixers}
- 30/36 in high pressure liquid systems
- 30/38 Flow patterns
- 2030/381 {centrifugal chromatography}
- 2030/382 {flow switching in a single column}
- 2030/383 {by using auxiliary fluid}
- 2030/385 {by switching valves}
- 2030/386 {Radial chromatography, i.e. with mobile phase traversing radially the stationary phase}
- 2030/387 {Turbulent flow of mobile phase}
- 2030/388 {Elution in two different directions on one stationary phase}
- 30/40 using back flushing
- 2030/402 {purgig a device}
- 2030/405 {re-concentrating or inverting previous separation}
- 2030/407 {carrying out another separation}
- 30/42 using counter-current
- 30/44 using recycling of the fraction to be distributed
- 2030/445 {heart cut}
- 30/46 using more than one column ([G01N 30/44](#) takes precedence)}
- 30/461 {with serial coupling of separation columns}
- 30/462 {with different eluents or with eluents in different states ([G01N 30/463](#) takes precedence)}
- 30/463 {for multidimensional chromatography}
- 30/465 {with specially adapted interfaces between the columns}
- 30/466 {with separation columns in parallel}
- 30/467 {all columns being identical}
- 30/468 {involving switching between different column configurations}
- 30/48 {Sorbent materials therefor}
- 30/482 {Solid sorbents}
- 2030/484 {Solid sorbents}
- 2030/486 {gels}
- 2030/488 {liquid sorbents}
- 30/50 Conditioning of the sorbent material or stationary liquid
- 30/52 Physical parameters
- 2030/521 {form}
- 2030/522 {pressure}
- 2030/524 {structural properties}
- 2030/525 {surface properties, e.g. porosity}
- 2030/527 {sorbent material in form of a membrane}
- 2030/528 {Monolithic sorbent material}
- 30/54 Temperature
- 30/56 Packing methods or coating methods
- 2030/562 {packing}
- 2030/565 {slurry packing}
- 2030/567 {coating}
- 30/58 the sorbent moving as a whole
- 2030/582 {micellar electrokinetic capillary chromatography [MECC]}
- 2030/585 {Parallel current chromatography}
- 2030/587 {Continuous annular chromatography}
- 30/60 Construction of the column
- 30/6004 {end pieces}
- 2030/6008 {capillary restrictors}
- 2030/6013 {interfaces to detectors}
- 30/6017 {Fluid distributors}
- 30/6021 {Adjustable pistons}
- 30/6026 {Fluid seals}
- 30/603 {retaining the stationary phase, e.g. Frits}
- 30/6034 {joining multiple columns}
- 30/6039 {in series}
- 30/6043 {in parallel}
- 30/6047 {with supporting means; Holders}
- 30/6052 {body}
- 30/606 {with fluid access or exit ports}
- 30/6065 {with varying cross section}
- 30/6069 {with compartments or bed substructure}
- 30/6073 {in open tubular form}
- 30/6078 {Capillaries}
- 30/6082 {transparent to radiation}
- 30/6086 {form designed to optimise dispersion}
- 30/6091 {Cartridges}

30/6095	. . . {Micromachined or nanomachined, e.g. micro- or nanosize}	30/76	. . . Acoustical detectors {(measurement of mechanical vibrations or ultrasonic, sonic or infrasonic waves G01H)}
	NOTE	2030/765	. . . . {for measuring mechanical vibrations}
	Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems" and the Notes following the title of subclass B82B relating to "nanostructures"	2030/77	. . . . {detecting radioactive properties}
30/62	. . Detectors specially adapted therefor	30/78	. . . using more than one detector
2030/621	. . . . {signal-to-noise ratio}	30/80	. . Fraction collectors
2030/623	. . . . {by modulation of sample feed or detector response}	30/82	. . . Automatic means therefor
2030/625	. . . . {by measuring reference material, e.g. carrier without sample}	30/84	. . Preparation of the fraction to be distributed
2030/626	. . . . {calibration, baseline}	2030/8405	. . . . {using pyrolysis}
2030/628	. . . . {Multiplexing, i.e. several columns sharing a single detector}	2030/8411	. . . . {Intermediate storage of effluent, including condensation on surface}
30/64	. . . Electrical detectors	2030/8417	. . . . {the store moving as a whole, e.g. moving wire}
2030/642	. . . . {photoionisation detectors}	2030/8423	. . . . {using permeable separator tubes}
2030/645	. . . . {electrical conductivity detectors}	2030/8429	. . . . {adding modifying material}
2030/647	. . . . {surface ionisation}	2030/8435	. . . . {for chemical reaction}
30/66	. . . . Thermal conductivity detectors	2030/8441	. . . . {to modify physical properties}
30/68	. . . . Flame ionisation detectors	2030/8447	. . . . {Nebulising, aerosol formation or ionisation}
2030/685	. . . . {flame photometry}	2030/8452	. . . . {Generation of electrically charged aerosols or ions}
30/70	. . . . Electron capture detectors	2030/8458	. . . . . {of ions or clusters of individual ions}
30/72	. . . Mass spectrometers {(mass spectrometers per se H01J 49/00)}	2030/8464	. . . . . {Uncharged atoms or aerosols}
30/7206	. . . . {interfaced to gas chromatograph (interfaces in general for introducing or extracting samples to be analysed with specially adapted mass spectrometer, see H01J 49/04)}	2030/847	. . . . . {by pneumatic means}
30/7213	. . . . . {splitting of the gaseous effluent}	2030/8476	. . . . . {by thermal means}
30/722	. . . . . {through a gas permeable barrier (membranes, porous layers)}	2030/8482	. . . . . {by electrical or glow discharge}
2030/7226	. . . . . {OWTC, short capillaries or transfer line used as column}	2030/8488	. . . . . {by electric field}
30/7233	. . . . . {interfaced to liquid or supercritical fluid chromatograph (interfaces in general for introducing or extracting samples to be analysed with specially adapted mass spectrometer, see H01J 49/04)}	2030/8494	. . . . . {Desolvation chambers}
30/724	. . . . . {Nebulising, aerosol formation or ionisation (spraying or atomising in general B05B)}	30/86	. . Signal analysis
30/7246	. . . . . . {by pneumatic means}	30/8603	. . . {with integration or differentiation}
30/7253	. . . . . . {by thermal means, e.g. thermospray}	30/8606	. . . . . {Integration}
30/726	. . . . . . {by electrical or glow discharge}	30/861	. . . . . {Differentiation}
30/7266	. . . . . . {by electric field, e.g. electrospray}	30/8613	. . . . . {Dividing or multiplying by a constant}
30/7273	. . . . . . {Desolvation chambers}	30/8617	. . . . . {Filtering, e.g. Fourier filtering}
30/728	. . . . . {Intermediate storage of effluent, including condensation on surface}	2030/862	. . . . . {Other mathematical operations for data preprocessing}
30/7286	. . . . . . {the store moving as a whole, e.g. moving wire}	30/8624	. . . . {Detection of slopes or peaks; baseline correction}
30/7293	. . . . . {Velocity or momentum separators}	30/8627	. . . . . {Slopes}
30/74	. . . Optical detectors {(measurement of intensity, velocity, spectral content, polarisation, or phase of infra-red, visible or ultra-violet light G01J)}	30/8631	. . . . . {Peaks}
2030/743	. . . . . {FTIR}	30/8634	. . . . . . {Peak quality criteria}
2030/746	. . . . . {detecting along the line of flow, e.g. axial}	30/8637	. . . . . . {Peak shape}
		30/8641	. . . . . {Baseline}
		30/8644	. . . . . {Data segmentation, e.g. time windows}
		2030/8648	. . . . . {Feature extraction not otherwise provided for}
		30/8651	. . . . {Recording, data acquisition, archiving and storage}
		30/8655	. . . . . {Details of data formats}
		30/8658	. . . . {Optimising operation parameters}
		30/8662	. . . . . {Expert systems; optimising a large number of parameters}
		30/8665	. . . . {for calibrating the measuring apparatus}
		30/8668	. . . . . {using retention times}
		30/8672	. . . . . {not depending on an individual instrument, e.g. retention time indexes or calibration transfer}
		30/8675	. . . . {Evaluation, i.e. decoding of the signal into analytical information (for analysis of specific compounds see also G01N 30/88 and subgroups of G01N 33/00 ; chemical libraries per se C40B)}

- 30/8679 {Target compound analysis, i.e. whereby a limited number of peaks is analysed}
- 30/8682 {Group type analysis, e.g. of components having structural properties in common}
- 30/8686 {Fingerprinting, e.g. without prior knowledge of the sample components}
- 30/8689 {Peak purity of co-eluting compounds}
- 30/8693 . . . {Models, e.g. prediction of retention times, method development and validation}
- 30/8696 . . . {Details of Software}
- 30/88 . . Integrated analysis systems specially adapted therefor, not covered by a single one of the groups [G01N 30/04](#) - [G01N 30/86](#)
- 2030/8804 . . . {automated systems}
- 2030/8809 . . . {analysis specially adapted for the sample}
- 2030/8813 {biological materials}
- 2030/8818 {involving amino acids}
- 2030/8822 {involving blood}
- 2030/8827 {involving nucleic acids}
- 2030/8831 {involving peptides or proteins}
- 2030/8836 {involving saccharides}
- 2030/884 {organic compounds}
- 2030/8845 {involving halogenated organic compounds}
- 2030/885 {involving polymers}
- 2030/8854 {involving hydrocarbons}
- 2030/8859 {inorganic compounds}
- 2030/8863 {Fullerenes}
- 2030/8868 {elemental analysis, e.g. isotope dilution analysis}
- 2030/8872 {impurities}
- 2030/8877 {optical isomers}
- 2030/8881 . . . {Modular construction, specially adapted therefor}
- 2030/8886 . . . {Analysis of industrial production processes}
- 2030/889 . . . {monitoring the quality of the stationary phase; column performance}
- 2030/8895 . . . {Independent juxtaposition of embodiments; Reviews}
- 30/89 . . Inverse chromatography
- 30/90 . . Plate chromatography, e.g. thin layer or paper chromatography
- 2030/903 . . . {centrifugal chromatography}
- 2030/906 . . . {pressurised fluid phase}
- 30/91 . . Application of the sample
- 30/92 . . Construction of the plate
- 30/93 . . . Application of the sorbent layer
- 30/94 . . Development
- 2030/945 . . . {Application of reagents to undeveloped plate}
- 30/95 . . Detectors specially adapted therefor; Signal analysis
- 30/96 . . using ion-exchange ([G01N 30/02](#), [G01N 30/90](#) take precedence)
- 2030/965 . . . {suppressor columns}
- 31/00 Investigating or analysing non-biological materials by the use of the chemical methods specified in the subgroup; Apparatus specially adapted for such methods**
- 31/002 . . {Determining nitrogen by transformation into ammonia, e.g. KJELDAHL method}
- 31/005 . . {investigating the presence of an element by oxidation ([G01N 31/12](#) takes precedence)}
- 31/007 . . {by measuring the quantity of water resulting therefrom ([G01N 31/12](#) takes precedence)}
- NOTE**
- The observation of the progress of the reaction specified below by any of the methods specified in groups [G01N 3/00](#) - [G01N 3/00](#) - [G01N 29/00](#), if this is of major importance, is dealt with in the group concerned.
- 31/02 . . using precipitation {(measuring deposition or liberation of materials from an electrolyte [G01N 27/42](#))}
- 31/10 . . using catalysis
- 31/12 . . using combustion ([G01N 25/20](#) takes precedence)
- 31/16 . . using titration
- 31/162 . . {Determining the equivalent point by means of a discontinuity}
- 31/164 . . . {by electrical or electrochemical means}
- 31/166 . . {Continuous titration of flowing liquids}
- 31/168 . . {Determining water content by using Karl Fischer reagent}
- 31/18 . . Burettes specially adapted for titration
- 31/20 . . using microanalysis, e.g. drop reaction
- 31/22 . . using chemical indicators ([G01N 31/02](#) takes precedence)
- 31/221 . . {for investigating pH value}
- 31/222 . . {for investigating moisture content}
- 31/223 . . {for investigating presence of specific gases or aerosols ([G01N 31/221](#), [G01N 31/222](#) take precedence; actuation of fire alarm by presence of smoke or gases [G08B 17/10](#))}
- 31/224 . . . {for investigating presence of dangerous gases}
- 31/225 . . . {for oxygen, e.g. including dissolved oxygen}
- 31/226 . . {for investigating the degree of sterilisation}
- 31/227 . . {for nitrates or nitrites}
- 31/228 . . {for peroxides}
- 31/229 . . {for investigating time/temperature history}
- 33/00 Investigating or analysing materials by specific methods not covered by groups [G01N 1/00](#) - [G01N 31/00](#)**
- NOTE**
- In groups [G01N 33/52](#) - [G01N 33/98](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
- {This Note corresponds to IPC Note (1) relating to [G01N 33/52](#) - [G01N 33/98](#).}
- 33/0001 . . {by organoleptic means}
- 2033/0003 . . {Composite materials}
- 33/0004 . . {Gaseous mixtures, e.g. polluted air (gaseous biological material [G01N 33/497](#); exhaust gas of internal combustion engines [G01M 15/102](#))}
- 33/0006 . . . {Calibrating gas analysers}
- 33/0008 . . . {Details concerning storage of calibration data, e.g. in EEPROM}
- 33/0009 . . {General constructional details of gas analysers, e.g. portable test equipment ([G01N 1/22](#) takes precedence)}
- 33/0011 . . . {Sample conditioning (in general [G01N 1/28](#))}

G01N

- 33/0013 {by a chemical reaction ([G01N 33/0024](#) takes precedence)}
- 33/0014 {by eliminating a gas ([G01N 33/0013](#) and [G01N 33/0024](#) take precedence)}
- 33/0016 {by regulating a physical variable, e.g. pressure, temperature}
- 33/0018 {by diluting a gas}
- 2033/0019 {by preconcentration}
- 33/0021 {involving the use of a carrier gas for transport to the sensor}
- 33/0022 {using a number of analysing channels}
- 33/0024 {a chemical reaction taking place or a gas being eliminated in one or more channels}
- 33/0026 {use of an alternating circulation of another gas ([calibrating gas analysers G01N 33/0006](#))}
- 33/0027 {concerning the detector}
- 33/0029 {cleaning}
- 33/0031 {comprising two or more sensors, e.g. a sensor array ([electrochemical electrode arrays G01N 27/27](#))}
- 33/0032 {using two or more different physical functioning modes}
- 33/0034 {comprising neural networks or related mathematical techniques}
- 33/0036 {Specially adapted to detect a particular component ([all the other sub-groups of G01N 33/0004](#) take precedence)}
- 33/0037 {for NO_x}
- 33/0039 {for O₃}
- 33/004 {for CO, CO₂}
- 33/0042 {for SO₂, SO₃}
- 33/0044 {for H₂S, sulfides}
- 33/0045 {for Hg}
- 33/0047 {for organic compounds}
- 33/0049 {for halogenated organic compounds}
- 33/005 {for H₂}
- 33/0052 {for gaseous halogens}
- 33/0054 {for ammonia}
- 33/0055 {for radionuclides}
- 33/0057 {for warfare agents or explosives ([properties of explosives G01N 33/227](#))}
- 33/0059 {avoiding interference of a gas with the gas to be measured}
- 33/006 {avoiding interference of water vapour with the gas to be measured}
- 33/0062 {concerning the measuring method, e.g. intermittent, or the display, e.g. digital}
- 33/0063 {using a threshold to release an alarm or displaying means ([alarm arrangements G08B](#), e.g. fire alarm actuated by the presence of smoke or gases [G08B 17/10](#), for other abnormal conditions [G08B 21/00](#))}
- 33/0065 {using more than one threshold}
- 33/0067 {by measuring the rate of variation of the concentration}
- 2033/0068 {using a computer specifically programmed}
- 33/007 {Arrangements to check the analyser ([calibrating G01N 33/0006](#))}
- 2033/0072 {by generating a test gas}
- 33/0073 {Control unit therefor}
- 33/0075 {for multiple spatially distributed sensors, e.g. for environmental monitoring ([transmission systems for measured values G08C](#))}
- 2033/0077 {testing material properties on individual granules or tablets}
- 2033/0078 {testing material properties on manufactured objects}
- 2033/008 {sport articles (balls, skis, rackets)}
- 2033/0081 {containers; packages; bottles}
- 2033/0083 {vehicle parts}
- 2033/0085 {wheels}
- 2033/0086 {clothes; hosiery}
- 2033/0088 {other articles}
- 2033/009 {seals}
- 2033/0091 {Powders}
- 2033/0093 {radioactive materials}
- 2033/0095 {Semiconductive materials}
- 2033/0096 {testing material properties on thin layers or coatings}
- 33/0098 {Plants or trees ([wood G01N 33/46](#))}
- 33/02 Food
- 33/025 {Fruits or vegetables}
- 33/03 Edible oils or edible fats
- 33/04 Dairy products
- 33/06 Determining fat content, e.g. by butyrometer
- 33/08 Eggs, e.g. by candling
- 33/085 {by candling}
- 33/10 Starch-containing substances, e.g. dough
- 2033/105 {Pasta}
- 33/12 Meat; fish
- 33/14 Beverages
- 33/143 {containing sugar}
- 33/146 {containing alcohol}
- 33/15 Medicinal preparations {; Physical properties thereof, e.g. dissolubility ([drug screening with animal cells G01N 33/5008](#))}
- 33/18 Water
- 33/1806 {biological or chemical oxygen demand (BOD or COD)}
- 33/1813 {specific cations in water, e.g. heavy metals ([electrochemical analysis G01N 27/26](#); [detection of ions by colorimetry G01N 31/22](#))}
- 33/182 {specific anions in water ([electrochemical analysis G01N 27/26](#); [detection of ions by colorimetry G01N 31/22](#))}
- 33/1826 {organic contamination in water}
- 33/1833 {Oil in water ([water in oil G01N 33/2847](#))}
- 2033/184 {herbicides, pesticides, fungicides, insecticides, or the like}
- 33/1846 {Total carbon analysis}
- 33/1853 {hardness of water}
- 33/186 {using one or more living organisms, e.g. a fish}
- 33/1866 {using microorganisms ([G01N 33/1806](#) takes precedence)}
- 2033/1873 {ice or snow}
- 33/188 {Determining the state of nitrification ([biological treatment of water by aerobic or anaerobic processes for denitrification of water C02F 3/305](#))}
- 33/1886 {using probes, e.g. submersible probes, buoys}
- 33/1893 {using flow cells}
- 33/20 Metals

- 33/202 . . Constituents thereof
- 33/2022 . . . Non-metallic constituents
- 33/2025 Gaseous constituents
- 33/2028 . . . Metallic constituents
- 33/204 . . Structure thereof, e.g. crystal structure
- 33/2045 . . . Defects
- 33/205 . . in liquid state, e.g. molten metals
- 33/207 . . Welded or soldered joints; Solderability
- 33/208 . . Coatings, e.g. platings
- 33/22 . . Fuels, explosives {(liquid hydrocarbons [G01N 33/28](#))}
- 33/222 . . {Solid fuels, e.g. coal}
- 33/225 . . {Gaseous fuels, e.g. natural gas}
- 33/227 . . {Explosives, e.g. combusive properties thereof (detecting explosives in air [G01N 33/0057](#))}
- 33/24 . . Earth materials ([G01N 33/42](#) takes precedence)
- 33/241 . . {for hydrocarbon content (drilling mud [G01N 33/2823](#); drilling per se [E21B](#); prospecting [G01V](#))}
- 2033/243 . . {for determining biological parameters concerning composting, biodegradability or bioavailability}
- 2033/245 . . {for agricultural purposes}
- 33/246 . . {for water content (for control of watering [A01G 25/167](#))}
- 2033/248 . . {related to manure as a biological product, i.e. excluding artificial fertilizers}
- 33/26 . . Oils; viscous liquids; paints; inks ([G01N 33/22](#) takes precedence)
- 33/28 . . Oils {, i.e. hydrocarbon liquids}({gaseous fuels [G01N 33/225](#); } edible oils or edible fats [G01N 33/03](#))
- 33/2805 . . . {investigating the resistance to heat or oxidation (to the weather, to corrosion, or to light [G01N 17/00](#))}
- 33/2811 . . . {by measuring cloud point or pour point of oils}
- 33/2817 . . . {using a test engine (testing of engines [G01M 15/00](#))}
- 33/2823 . . . {raw oil, drilling fluid or polyphasic mixtures (hydrocarbon content of earth materials [G01N 33/241](#); prospecting [G01V](#); drilling per se [E21B](#))}
- 33/2829 . . . {mixtures of fuels, e.g. determining the RON-number}
- 33/2835 . . . {specific substances contained in the oil or fuel}
- 33/2841 {gas in oil, e.g. hydrogen in insulating oil}
- 33/2847 {Water in oil (basic sediment and water [G01N 33/2823](#); oil in water [G01N 33/1833](#))}
- 33/2852 {alcohol/fuel mixtures}
- 33/2858 {metal particles}
- 33/2864 {lead content}
- 33/287 {Sulfur content}
- 33/2876 {Total acid number}
- 33/2882 {Markers (marking of fuels [C10L 1/003](#))}
- 33/2888 . . . {Lubricating oil characteristics, e.g. deterioration (lubricating properties [G01N 33/30](#))}
- 33/2894 . . . {for metal working or machining}
- 33/30 . . . for lubricating properties
- 33/32 . . Paints; inks {(investigating resistance to the weather, to corrosion, to light [G01N 17/00](#))}
- 33/34 . . Paper
- 33/343 . . {paper pulp}
- 33/346 . . {paper sheets}
- 33/36 . . Textiles
- 33/362 . . {material before processing, e.g. bulk cotton or wool}
- 33/365 . . {filiform textiles, e.g. yarns (for measuring diameter [G01B](#))}
- 33/367 . . {Fabric or woven textiles (optical analysis of moving sheets [G01N 21/86](#))}
- 33/38 . . Concrete; ceramics; glass; bricks
- 33/381 . . {precious stones; pearls}
- 33/383 . . {Concrete, cement}
- 33/385 . . {Crystals}
- 33/386 . . {Glass}
- 33/388 . . {Ceramics}
- 33/40 . . Grinding-materials
- 33/42 . . Road-making materials ([G01N 33/38](#) takes precedence)
- 33/44 . . Resins; rubber; leather
- 33/442 . . {Resins, plastics}
- 33/445 . . {Rubber}
- 33/447 . . {Leather}
- 33/46 . . Wood
- 33/48 . . Biological material, e.g. blood, urine ([G01N 33/02](#), [G01N 33/26](#), [G01N 33/44](#), [G01N 33/46](#) take precedence); Haemocytometers (counting blood corpuscles distributed over a surface by scanning the surface [G06M 11/02](#))
- 33/483 . . Physical analysis of biological material
- 33/4833 . . . {of solid biological material, e.g. tissue samples, cell cultures (tissue *in vivo* [A61B 5/00](#); cell suspensions [G01N 33/48735](#))}
- 33/4836 {using multielectrode arrays}
- 33/487 . . . of liquid biological material
- 33/48707 {by electrical means ([G01N 33/49](#), [G01N 33/493](#) take precedence)}
- 33/48714 {for determining substances foreign to the organism, e.g. drugs or heavy metals (drugs by chemical analysis [G01N 33/94](#))}
- 33/48721 {Investigating individual macromolecules, e.g. by translocation through nanopores (Coulter counters in general [G01N 15/12](#); fabrication methods for nanoscale apertures [B81B 1/00](#); sequencing of nucleic acids [C12Q 1/68](#))}
- 33/48728 {Investigating individual cells, e.g. by patch clamp, voltage clamp (investigating individual particles in general [G01N 15/10](#))}
- 33/48735 {Investigating suspensions of cells, e.g. measuring microbe concentration (by chemical means [C12Q 1/04](#); colony counters [C12M 1/34](#); concentration of particle suspensions in general [G01N 15/06](#))}
- 33/48742 {Determining urea by measuring the volume of a gas (in general [G01N 7/14](#) - [G01N 7/18](#))}

- 33/4875 {Details of handling test elements, e.g. dispensing or storage, not specific to a particular test method ([test-elements per se B01L](#), automatic analysers [G01N 35/00](#), in-vivo analysis on the human body for medical diagnosis [A61B](#))}
- 33/48757 {Test elements dispensed from a stack}
- 33/48764 {Test tape taken off a spool}
- 33/48771 {Coding of information, e.g. calibration data, lot number}
- 33/48778 {Containers specially adapted therefor, e.g. for dry storage}
- 33/48785 {Electrical and electronic details of measuring devices for physical analysis of liquid biological material not specific to a particular test method, e.g. user interface or power supply}
- 33/48792 {Data management, e.g. communication with processing unit (for [in vivo diagnostics A61B 5/0002](#); transmission systems for measured values [G08C](#))}
- 33/49 Blood {(chemical methods for determining blood cell populations [G01N 33/5094](#); chemical analysis of blood groups or blood types [G01N 33/80](#))}
- 33/4905 {Determining clotting time of blood (by chemical methods [G01N 33/86](#), [C12Q 1/54](#))}
- 33/491 {by separating the blood components ([G01N 15/05](#) takes precedence)}
- 33/4915 {using flow cells (flow cytometry [G01N 15/14](#))}
- 33/492 {Determining multiple analytes}
- 33/4925 {measuring blood gas content, e.g. O₂, CO₂, HCO₃}
- 33/493 urine
- 33/497 of gaseous biological material, e.g. breath
- 33/4972 {Determining alcohol content (for vehicle safety devices [B60K 28/06](#))}
- 2033/4975 {other than oxygen, carbon dioxide or alcohol, e.g. organic vapours}
- 2033/4977 {metabolic gas from microbes, cell cultures, plant tissues and the like}
- 33/50 Chemical analysis of biological material, e.g. blood, urine; Testing involving biospecific ligand binding methods; Immunological testing (measuring or testing processes involving enzymes or microorganisms, compositions or test papers therefor; processes for forming such compositions, condition responsive control in microbiological or enzymological processes [C12Q](#))
- NOTES**
1. In this group, the following expression is used with the meaning indicated: "involving", when used in relation to a material, includes the testing for the material as well as employing the material as a determinant or reactant in a test for a different material.
 2. In groups [G01N 33/52](#) – [G01N 33/98](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
 3. Documents relating to new peptides or new DNA or its corresponding mRNA, encoding for the peptides, and their use in measuring or testing processes are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their use in diagnostics. However, if the investigating or analysing aspects are of interest, the documents are classified in this group.
- 33/5002 {Partitioning blood components}
- 33/5005 {involving human or animal cells (immunoassay [G01N 33/56966](#); immunoassays of protozoa [G01N 33/56905](#); protozoa in screening assays [C12Q 1/025](#))}
- 33/5008 {for testing or evaluating the effect of chemical or biological compounds, e.g. drugs, cosmetics}
- 33/5011 {for testing antineoplastic activity}
- 33/5014 {for testing toxicity}
- 33/5017 {for testing neoplastic activity}
- 33/502 {for testing non-proliferative effects}
- 33/5023 {on expression patterns}
- 33/5026 {on cell morphology}
- 33/5029 {on cell motility}
- 33/5032 {on intercellular interactions}
- 33/5035 {on sub-cellular localization}
- 33/5038 {involving detection of metabolites [per se](#)}
- 33/5041 {involving analysis of members of signalling pathways}
- 33/5044 {involving specific cell types}
- 33/5047 {Cells of the immune system}
- 33/505 {involving T-cells}
- 33/5052 {involving B-cells}
- 33/5055 {involving macrophages}
- 33/5058 {Neurological cells}
- 33/5061 {Muscle cells}
- 33/5064 {Endothelial cells}
- 33/5067 {Liver cells}
- 33/507 {Pancreatic cells}
- 33/5073 {Stem cells}
- 33/5076 {involving cell organelles, e.g. Golgi complex, endoplasmic reticulum}
- 33/5079 {Mitochondria}
- 33/5082 {Supracellular entities, e.g. tissue, organisms}
- 33/5085 {of invertebrates}
- 33/5088 {of vertebrates}
- 33/5091 {for testing the pathological state of an organism}
- 33/5094 {for blood cell populations (red blood cells [G01N 33/80](#))}
- 33/5097 {involving plant cells (immunoassays of plant cells [G01N 33/56961](#); unicellular algae, phytoplankton and photosynthetic bacteria in screening assays [C12Q 1/025](#))}

- 33/52 . . . Use of compounds or compositions for colorimetric, spectrophotometric or fluorometric investigation, e.g. use of reagent paper {and including single- and multilayer analytical elements ([immunological elements G01N 33/54386](#); involving labelled immunochemicals [G01N 33/58](#); for haemoglobin or occult blood [G01N 33/72](#))}
- 33/521 {Single-layer analytical elements}
- 33/523 {the element being adapted for a specific analyte}
- 33/525 {Multi-layer analytical elements}
- 33/526 {the element being adapted for a specific analyte}
- 33/528 {Atypical element structures, e.g. gloves, rods, tampons, toilet paper}
- 33/53 . . . Immunoassay; Biospecific binding assay; Materials therefor
- 33/5302 {Apparatus specially adapted for immunological test procedures}
- 33/5304 {Reaction vessels, e.g. agglutination plates (for solid-phase systems [G01N 33/543](#))}
- 33/5306 {Improving reaction conditions, e.g. reduction of non-specific binding, promotion of specific binding}
- 33/5308 {for analytes not provided for elsewhere, e.g. nucleic acids, uric acid, worms, mites}
- 33/531 Production of immunochemical test materials
- 33/532 Production of labelled immunochemicals
- 33/533 with fluorescent label
- 33/534 with radioactive label
- 33/535 with enzyme label {or co-enzymes, co-factors, enzyme inhibitors or enzyme substrates}
- 33/536 with immune complex formed in liquid phase
- 33/537 with separation of immune complex from unbound antigen or antibody
- 33/5375 {by changing the physical or chemical properties of the medium or immunochemicals, e.g. temperature, density, pH, partitioning}
- 33/538 by sorbent column, particles or resin strip {, i.e. sorbent materials}
- 33/539 involving precipitating reagent {, e.g. ammonium sulfate}
- 33/541 Double or second antibody {, i.e. precipitating antibody}
- 33/542 with steric inhibition or signal modification, e.g. fluorescent quenching
- 33/543 with an insoluble carrier for immobilising immunochemicals
- 33/54306 {Solid-phase reaction mechanisms}
- 33/54313 {the carrier being characterised by its particulate form}
- 33/5432 {Liposomes or microcapsules}
- 33/54326 {Magnetic particles}
- 33/54333 {Modification of conditions of immunological binding reaction, e.g. use of more than one type of particle, use of chemical agents to improve binding, choice of incubation time or application of magnetic field during binding reaction}
- 33/5434 {using magnetic particle immunoreagent carriers which constitute new materials [per se](#)}
- 33/54346 {Nanoparticles}
- 33/54353 {with ligand attached to the carrier via a chemical coupling agent (coatings [G01N 33/54393](#))}
- 33/5436 {with ligand physically entrapped within the solid phase (liposomes [G01N 33/5432](#); immunological test elements [G01N 33/54386](#))}
- 33/54366 {Apparatus specially adapted for solid-phase testing}
- 33/54373 {involving physiochemical end-point determination, e.g. wave-guides, FETS, gratings}
- 33/5438 {Electrodes}
- 33/54386 {Analytical elements}
- WARNING**
- Group [G01N 33/54386](#) is impacted by reclassification into groups [G01N 33/54387](#), [G01N 33/54388](#), [G01N 33/54389](#) and [G01N 33/54391](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 33/54387 {Immunochemical test strips}
- WARNING**
- Groups [G01N 33/54387](#), [G01N 33/54388](#), [G01N 33/54389](#) and [G01N 33/54391](#) are incomplete pending reclassification of documents from groups [G01N 33/54386](#) and [G01N 33/558](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 33/54388 {based on lateral flow}
- 33/54389 {with bidirectional or multidirectional lateral flow, e.g. wherein the sample flows from a single, common sample application point into multiple strips, lanes or zones}
- 33/54391 {based on vertical flow}
- 33/54393 {Improving reaction conditions or stability, e.g. by coating or irradiation of surface, by reduction of non-specific binding, by promotion of specific binding}
- 33/544 the carrier being organic
- 33/545 Synthetic resin
- 33/546 as water suspendable particles
- 33/547 with antigen or antibody attached to the carrier [via](#) a bridging agent
- 33/548 Carbohydrates, e.g. dextran
- 33/549 with antigen or antibody entrapped within the carrier
- 33/551 the carrier being inorganic
- 33/552 Glass or silica

- 33/553 Metal or metal coated
 33/554 the carrier being a biological cell or cell fragment, e.g. bacteria, yeast cells
 33/555 Red blood cell
 33/556 Fixed or stabilised red blood cell
 33/557 using kinetic measurement, i.e. time rate of progress of an antigen-antibody interaction
 33/558 using diffusion or migration of antigen or antibody {(immunochromatographic test strips [G01N 33/54387](#))}

WARNING

Group [G01N 33/558](#) is impacted by reclassification into groups [G01N 33/54387](#), [G01N 33/54388](#), [G01N 33/54389](#) and [G01N 33/54391](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 33/559 through a gel, e.g. Ouchterlony technique
 33/561 Immunoelectrophoresis
 33/563 involving antibody fragments
 33/564 for pre-existing immune complex or autoimmune disease {, i.e. systemic lupus erythematosus, rheumatoid arthritis, multiple sclerosis, rheumatoid factors or complement components C1-C9}
 33/566 using specific carrier or receptor proteins as ligand binding reagents {where possible specific carrier or receptor proteins are classified with their target compounds}
 33/567 utilising isolate of tissue or organ as binding agent
 33/569 for microorganisms, e.g. protozoa, bacteria, viruses
 33/56905 {Protozoa}
 33/56911 {Bacteria}
 33/56916 {Enterobacteria, e.g. shigella, salmonella, klebsiella, serratia}
 33/56922 {Campylobacter}
 33/56927 {Chlamydia}
 33/56933 {Mycoplasma}
 33/56938 {Staphylococcus}
 33/56944 {Streptococcus}
 33/5695 {Mycobacteria}
 33/56955 {involved in periodontal diseases}
 33/56961 {Plant cells or fungi}
 33/56966 {Animal cells}
 33/56972 {White blood cells}
 33/56977 {HLA or MHC typing}
 33/56983 {Viruses}
 33/56988 {HIV or HTLV}
 33/56994 {Herpetoviridae, e.g. cytomegalovirus, Epstein-Barr virus}
 33/571 for venereal disease, e.g. syphilis, gonorrhoea {(herpes [G01N 33/56994](#); chlamydia [G01N 33/56927](#))}
 33/573 for enzymes or isoenzymes
 33/5735 {co-enzymes or co-factors, e.g. NAD, ATP}

- 33/574 for cancer

NOTE

In this group:

- relevant features relating to a specifically defined cancer are only classified in groups [G01N 33/57407](#) - [G01N 33/57449](#)
- relevant features describing cancer markers related to multiple forms of cancer are classified in groups [G01N 33/57484](#) - [G01N 33/57496](#)

- 33/57407 {Specifically defined cancers}
 33/57411 {of cervix}
 33/57415 {of breast}
 33/57419 {of colon}
 33/57423 {of lung}
 33/57426 {leukemia}
 33/5743 {of skin, e.g. melanoma}
 33/57434 {of prostate}
 33/57438 {of liver, pancreas or kidney}
 33/57442 {of the uterus and endometrial}
 33/57446 {of stomach or intestine}
 33/57449 {of ovaries}
 33/57469 {involving tumor associated glycolinkage, i.e. TAG}
 33/57473 {involving carcinoembryonic antigen, i.e. CEA}
 33/57476 {involving oncofetal proteins}
 33/5748 {involving oncogenic proteins}
 33/57484 {involving compounds serving as markers for tumor, cancer, neoplasia, e.g. cellular determinants, receptors, heat shock/stress proteins, A-protein, oligosaccharides, metabolites}
 33/57488 {involving compounds identifiable in body fluids}
 33/57492 {involving compounds localized on the membrane of tumor or cancer cells}
 33/57496 {involving intracellular compounds}
 33/576 for hepatitis
 33/5761 {Hepatitis B}
 33/5762 {Hepatitis B core antigen}
 33/5764 {Hepatitis B surface antigen}
 33/5765 {Hepatitis delta antigen}
 33/5767 {non-A, non-B hepatitis}
 33/5768 {Hepatitis A}
 33/577 involving monoclonal antibodies {binding reaction mechanisms characterised by the use of monoclonal antibodies; monoclonal antibodies per se are classified with their corresponding antigens; ([G01N 33/53](#) - [G01N 33/576](#) take precedence)}
 33/579 involving limulus lysate
 33/58 involving labelled substances ([G01N 33/53](#) takes precedence)
 33/581 {with enzyme label (including co-enzymes, co-factors, enzyme inhibitors or substrates)}
 33/582 {with fluorescent label}
 33/583 {with non-fluorescent dye label}
 33/585 {with a particulate label, e.g. coloured latex}
 33/586 {Liposomes, microcapsules or cells}

- 33/587 {Nanoparticles}
- 33/588 {with semiconductor nanocrystal label, e.g. quantum dots}
- 33/60 involving radioactive labelled substances
- 33/62 involving urea
- 33/64 involving ketones
- 33/66 involving blood sugars, e.g. galactose
- 33/68 involving proteins, peptides or amino acids
{involving lipoproteins [G01N 33/92](#)}
- 33/6803 {General methods of protein analysis not limited to specific proteins or families of proteins}
- 33/6806 {Determination of free amino acids}
- 33/6809 {involving fluorescent derivatizing reagents reacting non-specifically with all amino acids}
- 33/6812 {Assays for specific amino acids}
- 33/6815 {containing sulfur, e.g. cysteine, cystine, methionine, homocysteine}
- 33/6818 {Sequencing of polypeptides}
- 33/6821 {involving C-terminal degradation}
- 33/6824 {involving N-terminal degradation, e.g. Edman degradation}
- 33/6827 {Total protein determination, e.g. albumin in urine}
- 33/683 {involving metal ions}
- 33/6833 {Copper, e.g. Folin-, Lowry-, biuret methods}
- 33/6836 {Silver staining}
- 33/6839 {involving dyes, e.g. Coomassie blue, bromcresol green}
- 33/6842 {Proteomic analysis of subsets of protein mixtures with reduced complexity, e.g. membrane proteins, phosphoproteins, organelle proteins}
- 33/6845 {Methods of identifying protein-protein interactions in protein mixtures}
- 33/6848 {Methods of protein analysis involving mass spectrometry}
- 33/6851 {Methods of protein analysis involving laser desorption ionisation mass spectrometry}
- 33/6854 {Immunoglobulins}
- 33/6857 {Antibody fragments}
- 33/686 {Anti-idiotypic}
- 33/6863 {Cytokines, i.e. immune system proteins modifying a biological response such as cell growth proliferation or differentiation, e.g. TNF, CNF, GM-CSF, lymphotoxin, MIF or their receptors}
- 33/6866 {Interferon}
- 33/6869 {Interleukin}
- 33/6872 {Intracellular protein regulatory factors and their receptors, e.g. including ion channels}
- 33/6875 {Nucleoproteins}
- 33/6878 {in epitope analysis}
- 33/6881 {from skin}
- 33/6884 {from lung}
- 33/6887 {from muscle, cartilage or connective tissue}
- 33/689 {related to pregnancy or the gonads}
- 33/6893 {related to diseases not provided for elsewhere}
- 33/6896 {Neurological disorders, e.g. Alzheimer's disease}
- 33/70 involving creatine or creatinine
- 33/72 involving blood pigments, e.g. haemoglobin, bilirubin {or other porphyrins; involving occult blood}
- 33/721 {Haemoglobin}
- 33/723 {Glycosylated haemoglobin}
- 33/725 {using peroxidative activity}
- 33/726 {Devices}
- 33/728 {Bilirubin; including biliverdin}
- 33/74 involving hormones {or other non-cytokine intercellular protein regulatory factors such as growth factors, including receptors to hormones and growth factors}
- 33/743 {Steroid hormones}
- 33/746 {Erythropoietin}
- 33/76 Human chorionic gonadotropin {including luteinising hormone, follicle stimulating hormone, thyroid stimulating hormone or their receptors}
- 33/78 Thyroid gland hormones {, e.g. T3, T4, TBH, TBG or their receptors}
- 33/80 involving blood groups or blood types {or red blood cells ([white blood cells G01N 33/56972](#))}
- 33/82 involving vitamins {or their receptors}
- 33/84 involving inorganic compounds or pH
- 33/86 involving blood coagulating time {or factors, or their receptors}
- 33/88 involving prostaglandins {or their receptors}
- 33/90 involving iron binding capacity of blood
- 33/92 involving lipids, e.g. cholesterol {, lipoproteins, or their receptors ([steroid hormones G01N 33/743](#))}
- 33/94 involving narcotics {or drugs or pharmaceuticals, neurotransmitters or associated receptors}
- 33/9406 {Neurotransmitters}
- 33/9413 {Dopamine}
- 33/942 {Serotonin, i.e. 5-hydroxy-tryptamine}
- 33/9426 {GABA, i.e. gamma-amino-butyrate}
- 33/9433 {(Nor)adrenaline}
- 33/944 {Acetylcholine}
- 33/9446 {Antibacterials}
- 33/9453 {Cardioregulators, e.g. antihypotensives, antiarrhythmics}
- 33/946 {CNS-stimulants, e.g. cocaine, amphetamines}
- 33/9466 {Antidepressants}
- 33/9473 {Anticonvulsants, e.g. phenobarbitol, phenytoin}
- 33/948 {Sedatives, e.g. cannabinoids, barbiturates ([opiates G01N 33/9486](#))}
- 33/9486 {Analgesics, e.g. opiates, aspirine}
- 33/9493 {Immunosuppressants}
- 33/96 involving blood or serum control standard
- 33/98 involving alcohol, e.g. ethanol in breath
- 35/00 Automatic analysis not limited to methods or materials provided for in any single one of groups [G01N 1/00](#) - [G01N 33/00](#); Handling materials therefor**

- 35/00009 . . . {provided with a sample supporting tape, e.g. with absorbent zones}
- 2035/00019 . . . {cassette structures}
- 35/00029 . . . {provided with flat sample substrates, e.g. slides (G01N 35/028 takes precedence)}
- 2035/00039 . . . {Transport arrangements specific to flat sample substrates, e.g. pusher blade}
- 2035/00049 {for loading/unloading a carousel}
- 2035/00059 {vacuum chucks}
- 35/00069 {whereby the sample substrate is of the bio-disk type, i.e. having the format of an optical disk}
- 2035/00079 {Evaporation covers for slides}
- 2035/00089 {Magazines}
- 2035/00099 {Characterised by type of test elements}
- 2035/00108 {Test strips, e.g. paper}
- 2035/00118 {for multiple tests}
- 2035/00128 {with pressing or squeezing devices}
- 2035/00138 {Slides}
- 2035/00148 {Test cards, e.g. Biomerieux or McDonnel multiwell test cards}
- 2035/00158 {Elements containing microarrays, i.e. "biochip"}
- 2035/00168 {Manufacturing or preparing test elements}
- 2035/00178 {Special arrangements of analysers}
- 2035/00188 {the analyte being in the solid state}
- 2035/00198 {Dissolution analysers}
- 2035/00207 {Handling bulk quantities of analyte}
- 2035/00217 {involving measurement of weight}
- 2035/00227 {Monitoring a process (online)}
- 2035/00237 {Handling microquantities of analyte, e.g. microvalves, capillary networks}
- 2035/00247 {Microvalves}
- 2035/00257 . {Capillary stop flow circuits}
- 2035/00267 . {Melttable plugs}
- 2035/00277 . {Special precautions to avoid contamination (e.g. enclosures, glove- boxes, sealed sample carriers, disposal of contaminated material)}
- 2035/00287 . {movable lid/cover for sample or reaction tubes}
- 2035/00297 . {Antistatic arrangements}
- 2035/00306 . {Housings, cabinets, control panels (details)}
- 2035/00316 . {Detecting door closure}
- 2035/00326 . {Analysers with modular structure}
- 2035/00336 . {Analysers adapted for operation in microgravity, i.e. spaceflight}
- 2035/00346 . {Heating or cooling arrangements}
- 2035/00356 . {Holding samples at elevated temperature (incubation)}
- 2035/00366 . {Several different temperatures used}
- 2035/00376 . {Conductive heating, e.g. heated plates}
- 2035/00386 . {using fluid heat transfer medium}
- 2035/00396 . {where the fluid is a liquid}
- 2035/00405 . {Microwaves}
- 2035/00415 . {Other radiation}
- 2035/00425 . {Heating or cooling means associated with pipettes or the like, e.g. for supplying sample/reagent at given temperature}
- 2035/00435 . {Refrigerated reagent storage}
- 2035/00445 . {Other cooling arrangements}
- 2035/00455 . {Controlling humidity in analyser}
- 2035/00465 . {Separating and mixing arrangements}
- 2035/00475 . {Filters}
- 2035/00485 . {combined with sample carriers}
- 2035/00495 . {Centrifuges}
- 2035/00504 . {combined with carousels}
- 2035/00514 . {Stationary mixing elements}
- 2035/00524 . {Mixing by agitating sample carrier}
- 2035/00534 . {Mixing by a special element, e.g. stirrer}
- 2035/00544 . {using fluid flow}
- 2035/00554 . {using ultrasound}
- 2035/00564 . {Handling or washing solid phase elements, e.g. beads}
- 2035/00574 . {Means for distributing beads}
- 35/00584 . {Control arrangements for automatic analysers}
- 35/00594 . {Quality control, including calibration or testing of components of the analyser}
- 35/00603 . {Reinspection of samples}
- 35/00613 . {Quality control}
- 35/00623 . {of instruments}
- 2035/00633 . {logging process history of individual samples}
- 2035/00643 . {detecting malfunctions in conveying systems}
- 2035/00653 . {statistical methods comparing labs or apparatuses}
- 35/00663 . {of consumables}
- 2035/00673 . {of reagents}
- 2035/00683 . {of detectors}
- 35/00693 . {Calibration}
- 2035/00702 . {Curve-fitting; Parameter matching; Calibration constants}
- 35/00712 . {Automatic status testing, e.g. at start-up or periodic}
- 35/00722 . {Communications; Identification}
- 35/00732 . {Identification of carriers, materials or components in automatic analysers}
- 2035/00742 . {Type of codes}
- 2035/00752 . {bar codes}
- 2035/00762 . {magnetic code}
- 2035/00772 . {mechanical or optical code other than bar code}
- 2035/00782 . {reprogrammable code}
- 2035/00792 . {Type of components bearing the codes, other than sample carriers}
- 2035/00801 . {Holders for sample carriers, e.g. trays, carousel, racks}
- 2035/00811 . {consumable or exchangeable components other than sample carriers, e.g. detectors, flow cells}
- 2035/00821 . {nature of coded information}
- 2035/00831 . {identification of the sample, e.g. patient identity, place of sampling}
- 2035/00841 . {results of the analyses}
- 2035/00851 . {process control parameters}
- 2035/00861 . {printing and sticking of identifiers}
- 35/00871 . {Communications between instruments or with remote terminals}
- 2035/00881 . {network configurations}
- 2035/00891 . {Displaying information to the operator}
- 2035/009 . {alarms, e.g. audible}
- 2035/0091 . {GUI [graphical user interfaces]}
- 35/0092 . {Scheduling}
- 2035/0093 . {random access not determined by physical position}
- 2035/0094 . {optimisation; experiment design}

- 35/0095 . . . {introducing urgent samples with priority, e.g. Short Turn Around Time Samples [STATS]}
- 2035/0096 . . . {post analysis management of samples, e.g. marking, removing, storing}
- 2035/0097 . . . {monitoring reactions as a function of time}
- 35/0098 . . . {involving analyte bound to insoluble magnetic carrier, e.g. using magnetic separation ([magnetic particles used in immunoassays G01N 33/54326](#); [magnetic separation in general B03C](#))}
- 35/0099 . . . {comprising robots or similar manipulators ([robots per se B25J](#))}
- 35/02 . . . using a plurality of sample containers moved by a conveyor system past one or more treatment or analysis stations ([G01N 35/0098](#) and [G01N 35/0099](#) take precedence)
- 35/021 . . . {having a flexible chain, e.g. "cartridge belt", conveyor for reaction cells or cuvettes}
- 2035/023 . . . {forming cuvettes *in situ*, e.g. from plastic strip}
- 35/025 . . . {having a carousel or turntable for reaction cells or cuvettes}
- 35/026 . . . {having blocks or racks of reaction cells or cuvettes}
- 35/028 . . . {having reaction cells in the form of microtitration plates}
- 35/04 . . . Details of the conveyor system ([G01N 35/021](#) - [G01N 35/028](#) take precedence)
- 2035/0401 . . . {Sample carriers, cuvettes or reaction vessels}
- 2035/0403 {Sample carriers with closing or sealing means}
- 2035/0405 {manipulating closing or opening means, e.g. stoppers, screw caps, lids or covers}
- 2035/0406 {Individual bottles or tubes}
- 2035/0408 {connected in a flexible chain}
- 2035/041 {lifting items out of a rack for access}
- 2035/0412 {Block or rack elements with a single row of samples}
- 2035/0413 {moving in one dimension}
- 2035/0415 {moving in two dimensions in a horizontal plane}
- 2035/0417 {forming an endless chain in a vertical plane}
- 2035/0418 {Plate elements with several rows of samples}
- 2035/042 {moved independently, e.g. by fork manipulator}
- 2035/0422 {carried on a linear conveyor}
- 2035/0424 {Two or more linear conveyors}
- 2035/0425 {Stacks, magazines or elevators for plates}
- 2035/0427 {nestable or stockable}
- 2035/0429 {Sample carriers adapted for special purposes}
- 2035/0431 {characterised by material of construction}
- 2035/0432 {integrated with measuring devices}
- 2035/0434 {in the form of a syringe or pipette tip}
- 2035/0436 {with pre-packaged reagents, i.e. test-packs}
- 2035/0437 {Cleaning cuvettes or reaction vessels}
- 2035/0439 {Rotary sample carriers, i.e. carousels}
- 2035/0441 {for samples}
- 2035/0443 {for reagents}
- 2035/0444 {for cuvettes or reaction vessels}
- 2035/0446 {Combinations of the above}
- 2035/0448 {composed of interchangeable ring elements}
- 2035/0449 {using centrifugal transport of liquid}
- 2035/0451 {composed of interchangeable sectors}
- 2035/0453 {Multiple carousels working in parallel}
- 2035/0455 {Coaxial carousels}
- 2035/0456 {Spiral tracks}
- 2035/0458 {Multiple concentric rows of wells}
- 2035/046 {General conveyor features}
- 2035/0462 {Buffers [FIFO] or stacks [LIFO] for holding carriers between operations}
- 2035/0463 {in incubators}
- 2035/0465 {Loading or unloading the conveyor}
- 2035/0467 {Switching points ("aiguillages")}
- 2035/0468 {converging, e.g. selecting carriers from multiple incoming streams}
- 2035/047 {diverging, e.g. sending carriers to different analysers}
- 2035/0472 {for selective recirculation of carriers}
- 2035/0474 {Details of actuating means for conveyors or pipettes}
- 2035/0475 {electric, e.g. stepper motor, solenoid}
- 2035/0477 {Magnetic}
- 2035/0479 {hydraulic or pneumatic}
- 2035/0481 {Pneumatic tube conveyors; Tube mails; "Rohrpost"}
- 2035/0482 {Transmission}
- 2035/0484 {Belt or chain}
- 2035/0486 {Gearing, cams}
- 2035/0487 {Helix or lead screw}
- 2035/0489 {Self-propelled units}
- 2035/0491 {Position sensing, encoding; closed-loop control}
- 2035/0493 {Locating samples; identifying different tube sizes}
- 2035/0494 {Detecting or compensating positioning errors}
- 2035/0496 {Other details}
- 2035/0498 {Drawers used as storage or dispensing means for vessels or cuvettes}
- 35/08 . . . using a stream of discrete samples flowing along a tube system, e.g. flow injection analysis
- 35/085 . . . {Flow Injection Analysis}
- 35/10 . . . Devices for transferring samples {or any liquids} to, in, or from, the analysis apparatus, e.g. suction devices, injection devices ([G01N 35/0099](#) takes precedence)
- 35/1002 . . . {Reagent dispensers}
- 35/1004 . . . {Cleaning sample transfer devices}
- 2035/1006 . . . {Rinsing only the inside of the tip}
- 35/1009 . . . {Characterised by arrangements for controlling the aspiration or dispense of liquids}
- 35/1011 . . . {Control of the position or alignment of the transfer device}
- 2035/1013 {Confirming presence of tip}
- 35/1016 {Control of the volume dispensed or introduced}
- 2035/1018 {Detecting inhomogeneities, e.g. foam, bubbles, clots}
- 2035/102 {Preventing or detecting loss of fluid by dripping}
- 2035/1023 {using a valve in the tip or nozzle}
- 2035/1025 {Fluid level sensing}

- 2035/1027 . . . {General features of the devices}
- 2035/103 . . . {using disposable tips}
- 2035/1032 . . . {Dilution or aliquotting}
- 2035/1034 . . . {Transferring microquantities of liquid}
- 2035/1037 {Using surface tension, e.g. pins or wires}
- 2035/1039 {Micropipettes, e.g. microcapillary tubes}
- 2035/1041 {Ink-jet like dispensers}
- 2035/1044 {Using pneumatic means}
- 2035/1046 {Levitated, suspended drops}
- 2035/1048 . . . {using the transfer device for another function}
- 2035/1051 {for transporting containers, e.g. retained by friction}
- 2035/1053 {for separating part of the liquid, e.g. filters, extraction phase}
- 2035/1055 {for immobilising reagents, e.g. dried reagents}
- 2035/1058 {for mixing}
- 2035/106 {by sucking and blowing}
- 2035/1062 {for testing the liquid while it is in the transfer device}
- 35/1065 . . . {Multiple transfer devices}
- 35/1067 . . . {for transfer to or from containers having different spacing}
- 2035/1069 {by adjusting the spacing between multiple probes of a single transferring head}
- 35/1072 . . . {with provision for selective pipetting of individual channels}
- 35/1074 . . . {arranged in a two-dimensional array}
- 2035/1076 . . . {plurality or independently movable heads}
- 35/1079 . . . {with means for piercing stoppers or septums}
- 35/1081 . . . {characterised by the means for relatively moving the transfer device and the containers in an horizontal plane ([G01N 35/1011](#) takes precedence)}
- 35/1083 . . . {with one horizontal degree of freedom}
- 2035/1086 {Cylindrical, e.g. variable angle}
- 2035/1088 {Coaxial with a carousel}
- 35/109 . . . {with two horizontal degrees of freedom}
- 2035/1093 {Cylindrical, e.g. variable radius and angle}
- 35/1095 . . . {for supplying the samples to flow-through analysers (for a specific analyser see relevant groups, e.g. under [G01N 15/00](#), [G01N 21/00](#), [G01N 27/00](#), [G01N 30/00](#), [H01J 49/00](#))}
- 35/1097 . . . {characterised by the valves (valves in general [F16K](#))}
- 37/00** **Details not covered by any other group of this subclass**
- 37/005 . . . {Measurement methods not based on established scientific theories}
- 2201/00** **Features of devices classified in [G01N 21/00](#)**
- 2201/02 . . . Mechanical
- 2201/021 . . . Special mounting in general
- 2201/0212 Liquid borne; swimming apparatus
- 2201/0214 Airborne
- 2201/0216 Vehicle borne
- 2201/0218 Submersible, submarine
- 2201/022 . . . Casings
- 2201/0221 Portable; cableless; compact; hand-held
- 2201/0222 Pocket size
- 2201/0224 Pivoting casing
- 2201/0225 Part of casing being slidable, telescopic
- 2201/0227 Sealable enclosure
- 2201/0228 Moulded parts
- 2201/023 . . . Controlling conditions in casing
- 2201/0231 Thermostating
- 2201/0233 Gas purge
- 2201/0235 with gas filters in casing
- 2201/0236 Explosion proof
- 2201/0238 Moisture monitoring or controlling
- 2201/024 . . . Modular construction
- 2201/0245 with insertable-removable part
- 2201/025 . . . Mechanical control of operations
- 2201/0253 Switches mounted at the casing
- 2201/0256 Sensor for insertion of sample, cuvette, test strip
- 2201/04 . . . Batch operation; multisample devices
- 2201/0407 . . . with multiple optical units, e.g. one per sample
- 2201/0415 . . . Carrusel, sequential
- 2201/0423 with rotating optics
- 2201/043 optics constituted by optical fibre multiplex selector
- 2201/0438 . . . Linear motion, sequential
- 2201/0446 . . . Multicell plate, sequential
- 2201/0453 . . . Multicell sequential and multitest, e.g. multiwavelength
- 2201/0461 . . . Simultaneous, e.g. video imaging
- 2201/0469 . . . One cell, sequential, e.g. successive samples
- 2201/0476 . . . Keyboard controlled, e.g. for plural analysis at one sample, channel selection, coding
- 2201/0484 . . . Computer controlled
- 2201/0492 . . . Automatised microscope
- 2201/06 . . . Illumination; Optics
- 2201/061 . . . Sources
- 2201/06106 Plural sources used for calibration
- 2201/06113 Coherent sources; lasers
- 2201/0612 Laser diodes
- 2201/06126 Large diffuse sources
- 2201/06133 Light tables
- 2201/0614 Diffusing light tube with sample within
- 2201/06146 Multisources for homogeneisation, as well sequential as simultaneous operation
- 2201/06153 the sources being LED's
- 2201/0616 Ambient light is used
- 2201/06166 Line selective sources
- 2201/06173 IR sources from heated molecular species
- 2201/0618 Halogene sources
- 2201/06186 Resistance heated; wire sources; lamelle sources
- 2201/06193 Secondary in-situ sources, e.g. fluorescent particles
- 2201/062 . . . LED's
- 2201/0621 Supply
- 2201/0622 Use of a compensation LED
- 2201/0623 Use of a reference LED
- 2201/0624 Compensating variation in output of LED source
- 2201/0625 Modulated LED
- 2201/0626 Use of several LED's for spatial resolution
- 2201/0627 Use of several LED's for spectral resolution
- 2201/0628 Organic LED [OLED]
- 2201/063 . . . Illuminating optical parts
- 2201/0631 Homogeneising elements
- 2201/0632 homogeneising by integrating sphere

2201/0633	. . .	Directed, collimated illumination	2201/104	. .	Mechano-optical scan, i.e. object and beam moving
2201/0634	. . .	Diffuse illumination	2201/1042	. . .	X, Y scan, i.e. object moving in X, beam in Y
2201/0635	. . .	Structured illumination, e.g. with grating	2201/1045	. . .	Spiral scan
2201/0636	. . .	Reflectors	2201/1047	. . .	with rotating optics and moving stage
2201/0637	. . . .	Elliptic	2201/105	. .	Purely optical scan
2201/0638	. . .	Refractive parts	2201/1053	. . .	System of scan mirrors for composite motion of beam
2201/0639	. . . .	Sphere lens	2201/1056	. . .	Prism scan, diasporameter
2201/064	. .	Stray light conditioning	2201/106	. .	Acousto-optical scan
2201/0642	. . .	Light traps; baffles	2201/107	. .	CRT flying spot scan
2201/0644	. . . .	Simple baffled tube construction	2201/108	. .	Miscellaneous
2201/0646	. . .	Light seals	2201/1082	. . .	Descanning
2201/0648	. . .	Shutters	2201/1085	. . .	Using optical fibre array and scanner
2201/065	. .	Integrating spheres	2201/1087	. . .	Focussed scan beam, e.g. laser
2201/0655	. . .	Hemispheres	2201/11	. .	Monitoring and controlling the scan
2201/066	. .	Modifiable path; multiple paths in one sample	2201/112	. . .	Grating pulse time encoder
2201/0662	. . .	Comparing measurements on two or more paths in one sample	2201/115	. . .	Optical equalisation of scan intensity
2201/0664	. . .	Using two ways, i.e. two devices in same path in one sample	2201/117	. . .	Indexed, memorised or programmed scan
2201/0666	. . .	Selectable paths; insertable multiple sources	2201/12	. .	Circuits of general importance; Signal processing
2201/0668	. . .	Multiple paths; optimisable path length	2201/121	. .	Correction signals
2201/067	. .	Electro-optic, magneto-optic, acousto-optic elements	2201/1211	. . .	for temperature
2201/0675	. . .	SLM	2201/1212	. . . .	and switch-off from upwarming
2201/068	. .	Optics, miscellaneous	2201/1214	. . .	for humidity
2201/0683	. . .	Brewster plate; polarisation controlling elements	2201/1215	. . . .	for interfering gases
2201/0686	. . .	Cold filter; IR filter	2201/1217	. . .	for index of solution, carrying fluids
2201/069	. .	Supply of sources	2201/1218	. . .	for pressure variations
2201/0691	. . .	Modulated (not pulsed supply)	2201/122	. .	Kinetic analysis; determining reaction rate
2201/0692	. . .	Regulated sources; stabilised supply	2201/1222	. . .	Endpoint determination; reaction time determination
2201/0693	. . .	Battery powered circuitry	2201/1224	. . .	Polymerisation
2201/0694	. . .	Microprocessor controlled supply	2201/1226	. . .	Relaxation methods, e.g. temperature jump, field jump
2201/0695	. . .	Supply to maintain constant beam intensity	2201/1228	. . .	Reading time being controlled, e.g. by microprocessor
2201/0696	. . .	Pulsed	2201/123	. .	Conversion circuit
2201/0697	. . . .	Pulsed lasers	2201/1232	. . .	Log representation, e.g. for low transmittance
2201/0698	. . . .	Using reference pulsed source	2201/1235	. . .	Measuring or displaying selectively absorbance or density
2201/0699	. . . .	Randomly pulsed source	2201/1237	. . .	Measuring extrema
2201/08	. .	Optical fibres; light guides	2201/124	. .	Sensitivity
2201/0806	. .	Light rod	2201/1241	. . .	Multirange
2201/0813	. .	Arrangement of collimator tubes, glass or empty	2201/1242	. . .	Validating, e.g. range invalidation, suspending operation
2201/082	. .	Fibres for a reference path	2201/1244	. . .	Ambient light detector, e.g. for invalidating
2201/0826	. .	Fibre array at source, distributing	2201/1245	. . .	Averaging several measurements
2201/0833	. .	Fibre array at detector, resolving	2201/1247	. . .	Thresholding
2201/084	. .	Fibres for remote transmission	2201/1248	. . .	Validating from signal shape, slope, peak
2201/0846	. .	Fibre interface with sample, e.g. for spatial resolution	2201/125	. .	Digital circuitry
2201/0853	. .	Movable fibre optical member, e.g. for scanning or selecting	2201/126	. .	Microprocessor processing
2201/086	. .	Modular construction, e.g. disconnectable fibre parts	2201/1263	. . .	Microprocessor is used as variant to separate part circuits
2201/0866	. .	Use of GRIN elements	2201/1266	. . .	Interface card
2201/0873	. .	Using optically integrated constructions	2201/127	. .	Calibration; base line adjustment; drift compensation
2201/088	. .	Using a sensor fibre	2201/12707	. . .	Pre-test of apparatus, e.g. dark test, sensor test
2201/0886	. . .	and using OTDR	2201/12715	. . .	Zero adjustment, i.e. to verify calibration
2201/0893	. .	Using fibres for resolution in time	2201/12723	. . .	Self check capacity; automatic, periodic step of checking
2201/10	. .	Scanning	2201/1273	. . .	Check triggered by sensing conditions, e.g. ambient changes
2201/101	. .	Scanning measuring head	2201/12738	. . .	Selectively initiating check
2201/102	. .	Video camera			
2201/103	. .	Scanning by mechanical motion of stage			
2201/1035	. . .	3D motion			

- 2201/12746 . . . Calibration values determination
- 2201/12753 and storage
- 2201/12761 Precalibration, e.g. for a given series of reagents
- 2201/12769 and adjusting controls, e.g. zero and 100 %
- 2201/12776 Automatic scaling up
- 2201/12784 Base line obtained from computation, histogram
- 2201/12792 Compensating own radiation in apparatus
- 2201/128 . . Alternating sample and standard or reference part in one path
- 2201/1281 . . . Reflecting part, i.e. for autocollimation
- 2201/1283 . . . Opaque part
- 2201/1285 . . . Standard cuvette
- 2201/1286 More than one cuvette
- 2201/1288 . . . Calibration medium periodically inserted in one cell
- 2201/129 . . Using chemometrical methods
- 2201/1293 . . . resolving multicomponent spectra
- 2201/1296 . . . using neural networks
- 2201/13 . . Standards, constitution
- 2203/00 Investigating strength properties of solid materials by application of mechanical stress**
- 2203/0001 . Type of application of the stress
- 2203/0003 . . Steady
- 2203/0005 . . Repeated or cyclic
- 2203/0007 . . . Low frequencies up to 100 Hz
- 2203/0008 . . . High frequencies from 10 000 Hz
- 2203/001 . . Impulsive
- 2203/0012 . . Constant speed test
- 2203/0014 . Type of force applied
- 2203/0016 . . Tensile or compressive
- 2203/0017 . . . Tensile
- 2203/0019 . . . Compressive
- 2203/0021 . . Torsional
- 2203/0023 . . Bending
- 2203/0025 . . Shearing
- 2203/0026 . . Combination of several types of applied forces
- 2203/0028 . . . Rotation and bending
- 2203/003 . Generation of the force
- 2203/0032 . . using mechanical means
- 2203/0033 . . . Weight
- 2203/0035 . . . Spring
- 2203/0037 . . . involving a rotating movement, e.g. gearing, cam, eccentric, or centrifuge effects
- 2203/0039 . . . Hammer or pendulum
- 2203/0041 . . . Human or animal power
- 2203/0042 . . Pneumatic or hydraulic means
- 2203/0044 . . . Pneumatic means
- 2203/0046 Vacuum
- 2203/0048 . . . Hydraulic means
- 2203/005 . . Electromagnetic means
- 2203/0051 . . . Piezoelectric means
- 2203/0053 . . Cutting or drilling tools
- 2203/0055 . . using mechanical waves, e.g. acoustic
- 2203/0057 . . using stresses due to heating, e.g. conductive heating, radiative heating
- 2203/0058 . Kind of property studied
- 2203/006 . . Crack, flaws, fracture or rupture
- 2203/0062 . . . Crack or flaws
- 2203/0064 Initiation of crack
- 2203/0066 Propagation of crack
- 2203/0067 . . . Fracture or rupture
- 2203/0069 . . Fatigue, creep, strain-stress relations or elastic constants
- 2203/0071 . . . Creep
- 2203/0073 . . . Fatigue
- 2203/0075 . . . Strain-stress relations or elastic constants
- 2203/0076 . . Hardness, compressibility or resistance to crushing
- 2203/0078 . . . using indentation
- 2203/008 Residual indentation measurement
- 2203/0082 Indentation characteristics measured during load
- 2203/0083 . . . Rebound strike or reflected energy
- 2203/0085 . . . Compressibility
- 2203/0087 . . . Resistance to crushing
- 2203/0089 . . Biorheological properties
- 2203/0091 . . Peeling or tearing
- 2203/0092 . . Visco-elasticity, solidification, curing, cross-linking degree, vulcanisation or strength properties of semi-solid materials
- 2203/0094 . . . Visco-elasticity
- 2203/0096 . . Fibre-matrix interaction in composites
- 2203/0098 . Tests specified by its name, e.g. Charpy, Brinell, Mullen
- 2203/02 . Details not specific for a particular testing method
- 2203/0202 . . Control of the test
- 2203/0204 . . . Safety arrangements, e.g. remote control, emergency stop
- 2203/0206 . . . Means for supplying or positioning specimens or exchangeable parts of the machine such as indenters...
- 2203/0208 . . . Specific programs of loading, e.g. incremental loading or pre-loading
- 2203/021 . . . Treatment of the signal; Calibration
- 2203/0212 . . . Theories, calculations
- 2203/0214 Calculations a priori without experimental data
- 2203/0216 Finite elements
- 2203/0218 Calculations based on experimental data
- 2203/022 . . Environment of the test
- 2203/0222 . . . Temperature
- 2203/0224 Thermal cycling
- 2203/0226 High temperature; Heating means
- 2203/0228 Low temperature; Cooling means
- 2203/023 . . . Pressure
- 2203/0232 High pressure
- 2203/0234 Low pressure; Vacuum
- 2203/0236 . . . Other environments
- 2203/0238 Inert
- 2203/024 Corrosive
- 2203/0242 With circulation of a fluid
- 2203/0244 . . . Tests performed "in situ" or after "in situ" use
- 2203/0246 Special simulation of "in situ" conditions, scale models or dummies
- 2203/0248 . . . Tests "on-line" during fabrication
- 2203/025 . . Geometry of the test
- 2203/0252 . . . Monoaxial, i.e. the forces being applied along a single axis of the specimen
- 2203/0254 . . . Biaxial, the forces being applied along two normal axes of the specimen
- 2203/0256 . . . Triaxial, i.e. the forces being applied along three normal axes of the specimen

- 2203/0258 . . . Non axial, i.e. the forces not being applied along an axis of symmetry of the specimen
- 2203/026 . . Specifications of the specimen
- 2203/0262 . . . Shape of the specimen
- 2203/0264 Beam
- 2203/0266 Cylindrical specimens
- 2203/0268 Dumb-bell specimens
- 2203/027 Specimens with holes or notches
- 2203/0272 Cruciform specimens
- 2203/0274 Tubular or ring-shaped specimens
- 2203/0276 Spherical specimens
- 2203/0278 Thin specimens
- 2203/028 One dimensional, e.g. filaments, wires, ropes or cables
- 2203/0282 Two dimensional, e.g. tapes, webs, sheets, strips, disks or membranes
- 2203/0284 . . . Bulk material, e.g. powders
- 2203/0286 . . . Miniature specimen; Testing on microregions of a specimen
- 2203/0288 . . . Springs
- 2203/029 Leaf spring
- 2203/0292 Coil spring
- 2203/0294 Airs-spring, air bag spring or bellows
- 2203/0296 . . . Welds
- 2203/0298 . . . Manufacturing or preparing specimens
- 2203/04 . . Chucks, fixtures, jaws, holders or anvils
- 2203/0405 . . . Features allowing alignment between specimen and chucks
- 2203/0411 . . . using pneumatic or hydraulic pressure
- 2203/0417 . . . using vacuum
- 2203/0423 . . . using screws
- 2203/0429 . . . using adhesive bond; Gluing
- 2203/0435 . . . modifying the type of the force applied, e.g. the chuck transforms a compressive machine for applying a bending test
- 2203/0441 . . . with dampers or shock absorbing means
- 2203/0447 . . . Holders for quick insertion/removal of test pieces
- 2203/0452 . . . Cushioning layer between test piece and grip
- 2203/0458 . . . characterised by their material
- 2203/0464 . . . with provisions for testing more than one specimen at the time
- 2203/047 in series
- 2203/0476 in parallel
- 2203/0482 . . . comprising sensing means
- 2203/0488 Diamond anvil cells
- 2203/0494 Clamping ring, "whole periphery" clamping
- 2203/06 . . Indicating or recording means; Sensing means
- 2203/0605 . . . Mechanical indicating, recording or sensing means
- 2203/0611 . . . Hydraulic or pneumatic indicating, recording or sensing means
- 2203/0617 . . . Electrical or magnetic indicating, recording or sensing means
- 2203/0623 using piezo-electric gauges
- 2203/0629 using thin films, paintings
- 2203/0635 using magnetic properties
- 2203/0641 . . . using optical, X-ray, ultra-violet, infrared or similar detectors
- 2203/0647 Image analysis
- 2203/0652 using contrasting ink, painting, staining
- 2203/0658 . . . using acoustic or ultrasonic detectors
- 2203/0664 . . . using witness specimens
- 2203/067 . . . Parameter measured for estimating the property
- 2203/0676 Force, weight, load, energy, speed or acceleration
- 2203/0682 Spatial dimension, e.g. length, area, angle
- 2203/0688 Time or frequency
- 2203/0694 Temperature
- 2223/00 Investigating materials by wave or particle radiation**
- 2223/01 . . by radioactivity, nuclear decay
- 2223/03 . . by transmission
- 2223/04 . . and measuring absorption
- 2223/041 . . . X-ray absorption fine structure [EXAFS]
- 2223/043 . . . gamma ray resonance absorption (Mossbauer effect)
- 2223/045 . . combination of at least 2 measurements (transmission and scatter)
- 2223/05 . . by diffraction, scatter or reflection
- 2223/051 . . correcting for scatter
- 2223/052 . . reflection
- 2223/053 . . back scatter
- 2223/054 . . small angle scatter
- 2223/055 . . scatter raster collimator
- 2223/056 . . diffraction
- 2223/0561 . . . diffraction cameras
- 2223/0563 . . . measure of energy-dispersion spectrum of diffracted radiation
- 2223/0565 . . . diffraction of electrons, e.g. LEED
- 2223/0566 . . . analysing diffraction pattern
- 2223/0568 . . . spectro-diffractometry
- 2223/063 . . inelastic scatter, e.g. Compton effect
- 2223/064 . . interference of radiation, e.g. Borrmann effect
- 2223/07 . . secondary emission
- 2223/071 . . combination of measurements, at least 1 secondary emission
- 2223/072 . . combination of measurements, 2 kinds of secondary emission
- 2223/073 . . use of a laser
- 2223/074 . . activation analysis
- 2223/0745 . . . neutron-gamma activation analysis
- 2223/076 . . X-ray fluorescence
- 2223/0763 . . . Compton background correcting
- 2223/0766 . . . X-ray fluorescence with indicator, tags
- 2223/079 . . incident electron beam and measuring excited X-rays
- 2223/08 . . incident electron beam and measuring cathode luminescence (U.V.)
- 2223/081 . . incident ion beam, e.g. proton
- 2223/0813 . . . incident ion beam and measuring X-rays [PIXE]
- 2223/0816 . . . incident ion beam and measuring secondary ion beam [SIMS]
- 2223/084 . . photo-electric effect
- 2223/085 . . photo-electron spectrum [ESCA, XPS]
- 2223/086 . . Auger electrons
- 2223/09 . . exo-electron emission
- 2223/095 . . tribo-emission
- 2223/10 . . Different kinds of radiation or particles
- 2223/1003 . . monochromatic
- 2223/1006 . . different radiations, e.g. X and alpha
- 2223/101 . . electromagnetic radiation
- 2223/1013 . . . gamma

- 2223/1016 . . . X-ray
- 2223/102 . . beta or electrons
- 2223/104 . . ions
- 2223/1045 . . . alpha
- 2223/105 . . molecular or atomic beams
- 2223/106 . . neutrons
- 2223/1063 . . . fast
- 2223/1066 . . . thermal
- 2223/107 . . protons
- 2223/108 . . positrons; electron-positron annihilation
- 2223/11 . . neutrino
- 2223/20 . Sources of radiation
- 2223/201 . . betatron
- 2223/202 . . isotopes
- 2223/203 . . synchrotron
- 2223/204 . . source created from radiated target
- 2223/205 . . natural source
- 2223/206 . . sources operating at different energy levels
- 2223/30 . Accessories, mechanical or electrical features
- 2223/301 . . portable apparatus
- 2223/302 . . comparative arrangements
- 2223/303 . . calibrating, standardising
- 2223/3032 . . . periodic calibration, e.g. with filter wheel
- 2223/3035 . . . phantom
- 2223/3037 . . . standards (constitution)
- 2223/304 . . electric circuits, signal processing
- 2223/305 . . computer simulations
- 2223/306 . . computer control
- 2223/307 . . cuvettes-sample holders
- 2223/3075 . . . correcting for the properties of the container, e.g. empty
- 2223/308 . . support of radiation source
- 2223/309 . . support of sample holder
- 2223/31 . . temperature control
- 2223/3103 . . . cooling, cryostats
- 2223/3106 . . . heating, furnaces
- 2223/311 . . high pressure testing, anvil cells
- 2223/312 . . powder preparation
- 2223/313 . . filters, rotating filter disc
- 2223/314 . . chopper
- 2223/315 . . monochromators
- 2223/316 . . collimators
- 2223/317 . . windows
- 2223/318 . . protective films
- 2223/319 . . using opaque penetrant medium
- 2223/32 . . adjustments of elements during operation
- 2223/321 . . manipulator for positioning a part
- 2223/322 . . immersed detecting head
- 2223/323 . . irradiation range monitor, e.g. light beam
- 2223/33 . . scanning, i.e. relative motion for measurement of successive object-parts
- 2223/3301 . . . beam is modified for scan, e.g. moving collimator
- 2223/3302 . . . object and detector fixed
- 2223/3303 . . . object fixed; source and detector move
- 2223/3304 . . . helicoidal scan
- 2223/3305 . . . detector fixed; source and body moving
- 2223/3306 . . . object rotates
- 2223/3307 . . . source and detector fixed; object moves
- 2223/3308 . . . object translates
- 2223/331 . . rocking curve analysis
- 2223/335 . . electronic scanning
- 2223/34 . . sensing means for gap between source and detector
- 2223/345 . . mathematical transformations on beams or signals, e.g. Fourier
- 2223/348 . . ellipsoidal collector
- 2223/351 . . prohibiting charge accumulation on sample substrate
- 2223/40 . Imaging
- 2223/401 . . image processing
- 2223/402 . . mapping distribution of elements
- 2223/403 . . mapping with false colours
- 2223/404 . . contrast medium
- 2223/405 . . mapping of a material property
- 2223/406 . . fluoroscopic image
- 2223/407 . . stimulable phosphor sheet
- 2223/408 . . display on monitor
- 2223/409 . . embedding or impregnating the object
- 2223/41 . . imaging specifically internal structure
- 2223/411 . . tv imaging from fluorescent screen
- 2223/412 . . use of image converter tube [PMT]
- 2223/413 . . sensor array [CCD]
- 2223/414 . . stereoscopic system
- 2223/415 . . radiographic film
- 2223/416 . . wrap around
- 2223/417 . . recording with co-ordinate markings
- 2223/418 . . electron microscope
- 2223/419 . . computed tomograph
- 2223/42 . . image digitised, -enhanced in an image processor
- 2223/421 . . digitised image, analysed in real time (recognition algorithms)
- 2223/422 . . windows within the image
- 2223/423 . . multispectral imaging-multiple energy imaging
- 2223/424 . . energy subtraction image processing (dual energy processing)
- 2223/425 . . temporal (time difference) subtraction processing
- 2223/426 . . image comparing, unknown with known substance
- 2223/427 . . stepped imaging (selected area of sample is changed)
- 2223/50 . Detectors
- 2223/501 . . array
- 2223/5015 . . . linear array
- 2223/502 . . ionisation chamber
- 2223/503 . . auxiliary reference detector
- 2223/504 . . pin-diode
- 2223/505 . . scintillation
- 2223/5055 . . . scintillation crystal coupled to PMT
- 2223/506 . . time-of-flight
- 2223/507 . . secondary-emission detector
- 2223/508 . . photo-acoustic
- 2223/509 . . infra-red
- 2223/60 . Specific applications or type of materials
- 2223/601 . . density profile
- 2223/602 . . crystal growth
- 2223/603 . . superlattices
- 2223/604 . . monocrystal
- 2223/605 . . phases
- 2223/606 . . texture
- 2223/607 . . strain
- 2223/608 . . superconductors

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2223/61	. . thin films, coatings
2223/611	. . patterned objects; electronic devices
2223/6113	. . . printed circuit board [PCB]
2223/6116	. . . semiconductor wafer
2223/612	. . biological material
2223/6123	. . . bone mineral
2223/6126	. . . tissue
2223/613	. . moisture
2223/614	. . road surface
2223/615	. . composite materials, multilayer laminates
2223/616	. . earth materials
2223/617	. . ash in coal
2223/618	. . food
2223/619	. . wood
2223/62	. . powders
2223/621	. . tobacco
2223/622	. . paper
2223/623	. . plastics
2223/624	. . steel, castings
2223/625	. . nuclear fuels, laser imploded targets
2223/626	. . radioactive material
2223/6265	. . . sample with radioactive tracer, tag, label
2223/627	. . tyres
2223/628	. . tubes, pipes
2223/629	. . welds, bonds, sealing compounds
2223/63	. . turbine blades
2223/631	. . large structures, walls
2223/632	. . residual life, life expectancy
2223/633	. . thickness, density, surface weight (unit area)
2223/634	. . wear behaviour, roughness
2223/635	. . fluids, granulates
2223/636	. . fluid sample with radioactive sources
2223/637	. . liquid
2223/638	. . gas
2223/639	. . material in a container
2223/64	. . multiple-sample chamber, multiplicity of materials
2223/641	. . particle sizing
2223/642	. . moving sheet, web
2223/6425	. . . correcting for web flutter
2223/643	. . object on conveyor
2223/645	. . quality control
2223/646	. . flaws, defects
2223/6462	. . . microdefects
2223/6464	. . . radioactive substance into defect site
2223/6466	. . . flaws comparing to predetermined standards
2223/6468	. . . at different temperatures
2223/647	. . leak detection
2223/648	. . voids
2223/649	. . porosity
2223/65	. . cavitation pits
2223/651	. . dust
2223/652	. . impurities, foreign matter, trace amounts
2223/66	. . multiple steps inspection, e.g. coarse/fine
2291/00	Indexing codes associated with group G01N 29/00
2291/01	. Indexing codes associated with the measuring variable
2291/011	. . Velocity or travel time
2291/012	. . Phase angle
2291/014	. . Resonance or resonant frequency
2291/015	. . Attenuation, scattering
2291/017	. . Doppler techniques
2291/018	. . Impedance
2291/02	. Indexing codes associated with the analysed material
2291/021	. . Gases
2291/0212	. . . Binary gases
2291/0215	. . . Mixtures of three or more gases, e.g. air
2291/0217	. . . Smoke, combustion gases
2291/022	. . Liquids
2291/0222	. . . Binary liquids
2291/0224	. . . Mixtures of three or more liquids
2291/0226	. . . Oils, e.g. engine oils
2291/0228	. . . Aqueous liquids
2291/023	. . Solids
2291/0231	. . . Composite or layered materials
2291/0232	. . . Glass, ceramics, concrete or stone
2291/0234	. . . Metals, e.g. steel
2291/0235	. . . Plastics; polymers; soft materials, e.g. rubber
2291/0237	. . . Thin materials, e.g. paper, membranes, thin films
2291/0238	. . . Wood
2291/024	. . Mixtures
2291/02408	. . . Solids in gases, e.g. particle suspensions
2291/02416	. . . Solids in liquids
2291/02425	. . . Liquids in gases, e.g. sprays
2291/02433	. . . Gases in liquids, e.g. bubbles, foams
2291/02441	. . . Liquids in porous solids
2291/0245	. . . Gases in porous solids
2291/02458	. . . Solids in solids, e.g. granules
2291/02466	. . . Biological material, e.g. blood
2291/02475	. . . Tissue characterisation
2291/02483	. . . Other human or animal parts, e.g. bones
2291/02491	. . . Materials with nonlinear acoustic properties
2291/025	. . Change of phase or condition
2291/0251	. . . Solidification, icing, curing composites, polymerisation
2291/0252	. . . Melting, molten solids
2291/0253	. . . Condensation
2291/0254	. . . Evaporation
2291/0255	. . . (Bio)chemical reactions, e.g. on biosensors
2291/0256	. . . Adsorption, desorption, surface mass change, e.g. on biosensors
2291/0257	. . . . with a layer containing at least one organic compound
2291/0258	. . . Structural degradation, e.g. fatigue of composites, ageing of oils
2291/028	. . Material parameters
2291/02809	. . . Concentration of a compound, e.g. measured by a surface mass change
2291/02818	. . . Density, viscosity
2291/02827	. . . Elastic parameters, strength or force
2291/02836	. . . Flow rate, liquid level
2291/02845	. . . Humidity, wetness
2291/02854	. . . Length, thickness
2291/02863	. . . Electric or magnetic parameters
2291/02872	. . . Pressure
2291/02881	. . . Temperature
2291/0289	. . . Internal structure, e.g. defects, grain size, texture
2291/04	. Wave modes and trajectories
2291/042	. . Wave modes
2291/0421	. . . Longitudinal waves

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- 2291/0422 . . . Shear waves, transverse waves, horizontally polarised waves
- 2291/0423 . . . Surface waves, e.g. Rayleigh waves, Love waves
- 2291/0425 . . . Parallel to the surface, e.g. creep waves
- 2291/0426 . . . Bulk waves, e.g. quartz crystal microbalance, torsional waves
- 2291/0427 . . . Flexural waves, plate waves, e.g. Lamb waves, tuning fork, cantilever
- 2291/0428 . . . Mode conversion
- 2291/043 . . Complex trajectories
- 2291/044 . . Internal reflections (echoes), e.g. on walls or defects
- 2291/045 . . External reflections, e.g. on reflectors
- 2291/048 . . Transmission, i.e. analysed material between transmitter and receiver
- 2291/051 . . Perpendicular incidence, perpendicular propagation
- 2291/052 . . Perpendicular incidence, angular propagation
- 2291/055 . . Angular incidence, perpendicular propagation
- 2291/056 . . Angular incidence, angular propagation
- 2291/057 . . Angular incidence, parallel to surface propagation
- 2291/10 . . Number of transducers
- 2291/101 . . one transducer
- 2291/102 . . one emitter, one receiver
- 2291/103 . . one emitter, two or more receivers
- 2291/104 . . two or more emitters, one receiver
- 2291/105 . . two or more emitters, two or more receivers
- 2291/106 . . one or more transducer arrays
- 2291/26 . . Scanned objects
- 2291/262 . . Linear objects
- 2291/2623 . . . Rails; Railroads
- 2291/2626 . . . Wires, bars, rods
- 2291/263 . . Surfaces
- 2291/2632 . . . flat
- 2291/2634 . . . cylindrical from outside
- 2291/2636 . . . cylindrical from inside
- 2291/2638 . . . Complex surfaces
- 2291/265 . . Spherical objects
- 2291/267 . . Welds
- 2291/2672 . . . Spot welding
- 2291/2675 . . . Seam, butt welding
- 2291/2677 . . . Lapp welding
- 2291/269 . . Various geometry objects
- 2291/2691 . . . Bolts, screws, heads
- 2291/2692 . . . Tyres
- 2291/2693 . . . Rotor or turbine parts
- 2291/2694 . . . Wings or other aircraft parts
- 2291/2695 . . . Bottles, containers
- 2291/2696 . . . Wheels, Gears, Bearings
- 2291/2697 . . . Wafer or (micro)electronic parts
- 2291/2698 . . . Other discrete objects, e.g. bricks
- 2333/00 Assays involving biological materials from specific organisms or of a specific nature**
- NOTE**
- In groups [G01N 2333/47](#) - [G01N 2333/994](#) indexing codes are assigned according to the chemical nature of the materials irrespective of the source organism.
- 2333/001 . . by chemical synthesis
- 2333/003 . . of Peptide-nucleic acids (PNAs)
- 2333/005 . . from viruses
- 2333/01 . . DNA viruses
- 2333/015 . . . Parvoviridae, e.g. feline panleukopenia virus, human Parvovirus
- 2333/02 . . . Hepadnaviridae, e.g. hepatitis B virus
- 2333/025 . . . Papovaviridae, e.g. papillomavirus, polyomavirus, SV40, BK virus, JC virus
- 2333/03 . . . Herpetoviridae, e.g. pseudorabies virus
- 2333/032 Pseudorabies virus, i.e. Aujetzký virus
- 2333/035 Herpes simplex virus I or II
- 2333/04 Varicella-zoster virus
- 2333/045 Cytomegalovirus
- 2333/05 Epstein-Barr virus
- 2333/055 Marek's disease virus
- 2333/06 Infectious bovine rhinotracheitis virus
- 2333/065 . . . Poxviridae, e.g. avipoxvirus
- 2333/07 Vaccinia virus; Variola virus
- 2333/075 . . . Adenoviridae
- 2333/08 . . RNA viruses
- 2333/085 . . . Picornaviridae, e.g. coxsackie virus, echovirus, enterovirus
- 2333/09 Foot-and-mouth disease virus
- 2333/095 Rhinovirus
- 2333/10 Hepatitis A virus
- 2333/105 Poliovirus
- 2333/11 . . . Orthomyxoviridae, e.g. influenza virus
- 2333/115 . . . Paramyxoviridae, e.g. parainfluenza virus
- 2333/12 Mumps virus; Measles virus
- 2333/125 Newcastle disease virus
- 2333/13 Canine distemper virus
- 2333/135 Respiratory syncytial virus
- 2333/14 . . . Reoviridae, e.g. rotavirus, bluetongue virus, Colorado tick fever virus
- 2333/145 . . . Rhabdoviridae, e.g. rabies virus, Duvenhage virus, Mokola virus or vesicular stomatitis virus
- 2333/15 . . . Retroviridae, e.g. bovine leukaemia virus, feline leukaemia virus, feline leukaemia virus, human T-cell leukaemia-lymphoma virus
- 2333/155 Lentiviridae, e.g. visna-maedi virus, equine infectious virus, FIV, SIV
- 2333/16 HIV-1, HIV-2
- 2333/161 gag-pol, e.g. p55, p24/25, p17/18, p7, p6, p66/68, p51/52, p31/34, p32, p40
- 2333/162 env, e.g. gp160, gp110/120, gp41, V3, peptid T, DC4-Binding site
- 2333/163 Regulatory proteins, e.g. tat, nef, rev, vif, vpu, vpr, vpt, vpx
- 2333/165 . . . Coronaviridae, e.g. avian infectious bronchitis virus
- 2333/17 Porcine transmissible gastroenteritis virus
- 2333/175 . . . Bunyaviridae, e.g. California encephalitis virus, Rift valley fever virus, Hantaan virus
- 2333/18 . . . Togaviridae; Flaviviridae
- 2333/181 Alphaviruses or Group A arboviruses, e.g. sindbis, VEE, EEE, WEE or semliki forest virus ([rubella virus G01N 2333/19](#))
- 2333/183 Flaviviridae, e.g. pestivirus, mucosal disease virus, bovine viral diarrhoea virus, classical swine fever virus (hog cholera virus) or border disease virus

2333/185	. . . . .	Flaviviruses or Group B arboviruses, e.g. yellow fever virus, Japanese encephalitis, tick-borne encephalitis, dengue	2333/38	. .	from <i>Aspergillus</i>
2333/186	. . . . .	Hepatitis C; Hepatitis NANB	2333/385	. .	from <i>Penicillium</i>
2333/188	. . . . .	Hepatitis G; Hepatitis NANBNCNDNE	2333/39	. .	from yeasts
2333/19	. . . . .	Rubella virus	2333/395	. . .	from <i>Saccharomyces</i>
2333/195	. .	from bacteria	2333/40	. . .	from <i>Candida</i>
			2333/405	. .	from algae
			2333/41	. .	from lichens
			2333/415	. .	from plants
			2333/42	. .	Lectins, e.g. concanavalin, phytohaemagglutinin
			2333/425	. .	Zeins
			2333/43	. .	Sweetening agents, e.g. thaumatin, monellin
			2333/435	. .	from animals; from humans
			2333/43504	. .	from invertebrates
			2333/43508	. . .	from crustaceans
			2333/43513	. . .	from arachnida
			2333/43517	. . . . .	from spiders
			2333/43521	. . . . .	from scorpions
			2333/43526	. . . . .	from worms
			2333/4353	. . . . .	from nematodes
			2333/43534	. . . . .	from <i>Caenorhabditis</i>
			2333/43539	. . . . .	from cestodes
			2333/43543	. . . . .	from <i>Taenia</i>
			2333/43547	. . . . .	from trematodes
			2333/43552	. . . . .	from insects
			2333/43556	. . . . .	from ticks
			2333/4356	. . . . .	from wasps
			2333/43565	. . . . .	from bees
			2333/43569	. . . . .	from flies
			2333/43573	. . . . .	from <i>Drosophila</i>
			2333/43578	. . . . .	from silkworm
			2333/43582	. . . . .	from mites
			2333/43586	. . . . .	from fleas
			2333/43591	. . . . .	from mosquitoes
			2333/43595	. . . . .	from coelenteratae, e.g. medusae
			2333/44	. .	from protozoa
			2333/445	. . .	<i>Plasmodium</i>
			2333/45	. . .	<i>Toxoplasma</i>
			2333/455	. . .	<i>Eimeria</i>
			2333/46	. .	from vertebrates
			2333/4603	. . .	from fish
			2333/4606	. . .	from amphibians
			2333/4609	. . .	from reptiles
			2333/4613	. . . . .	Snake venom
			2333/4616	. . . . .	from Russell's viper
			2333/462	. . . . .	from <i>Agkistrodon</i> sp., e.g. <i>acutase</i> , ACTE
			2333/4623	. . . . .	from <i>Agkistrodon rhodostoma</i> (Malayan pit viper); Arvin (R); Batroboxin; Ancrod
			2333/4626	. . . . .	from <i>Agkistrodon contortrix contortrix</i> (copperhead snake); Protac (R)
			2333/463	. . . . .	from <i>Croतालus adamanteus</i> (Eastern Diamondback rattlesnake); Crotolese
			2333/4633	. . . . .	from <i>Echis carinatus</i> ; Ecarin
			2333/4636	. . . . .	from <i>Bothrops</i> sp.
			2333/464	. . . . .	from <i>Bothrops atrox</i> ; Reptilase; Atroxin
			2333/4643	. . . . .	from <i>Bothrops jararaca</i> ; Botrocetin
			2333/4646	. . . . .	from <i>Oxyuran(eo)us scutellatus</i> (Taipan snake of Elapidae family)
			2333/465	. . .	from birds
			2333/47	. . .	Assays involving proteins of known structure or function as defined in the subgroups
			2333/4701	. . . . .	Details
2333/20	. .	from Spirochaetales (O), e.g. <i>Treponema</i> , <i>Leptospira</i>			
2333/205	. .	from <i>Campylobacter</i> (G)			
2333/21	. .	from Pseudomonadaceae (F)			
2333/212	. . .	Moraxellaceae, e.g. <i>Acinetobacter</i> , <i>Moraxella</i> , <i>Oligella</i> or <i>Psychrobacter</i>			
2333/215	. .	from Halobacteriaceae (F)			
2333/22	. .	from Neisseriaceae (F), e.g. <i>Acinetobacter</i>			
2333/225	. .	from <i>Alcaligenes</i> (G)			
2333/23	. .	from <i>Brucella</i> (G)			
2333/235	. .	from <i>Bordetella</i> (G)			
2333/24	. .	from Enterobacteriaceae (F), e.g. <i>Citrobacter</i> , <i>Serratia</i> , <i>Proteus</i> , <i>Providencia</i> , <i>Morganella</i> , <i>Yersinia</i>			
2333/245	. . .	<i>Escherichia</i> (G)			
2333/25	. . .	<i>Shigella</i> (G)			
2333/255	. . .	<i>Salmonella</i> (G)			
2333/26	. . .	<i>Klebsiella</i> (G)			
2333/265	. . .	<i>Enterobacter</i> (G)			
2333/27	. . .	<i>Erwinia</i> (G)			
2333/275	. . .	<i>Hafnia</i> (G)			
2333/28	. .	from Vibrionaceae (F)			
2333/285	. .	from Pasteurellaceae (F), e.g. <i>Haemophilus influenzae</i>			
2333/29	. .	from Rickettsiales (o)			
2333/295	. .	from Chlamydiales (o)			
2333/30	. .	from Mycoplasmatales, e.g. Pleuropneumonia-like organisms [PPLO]			
2333/305	. .	from Micrococcaceae (F)			
2333/31	. . .	from <i>Staphylococcus</i> (G)			
2333/315	. .	from <i>Streptococcus</i> (G), e.g. Enterococci			
2333/3153	. . .	Streptokinase			
2333/3156	. . .	from <i>Streptococcus pneumoniae</i> (<i>Pneumococcus</i>) (Streptokinase G01N 2333/3153)			
2333/32	. .	from <i>Bacillus</i> (G)			
2333/325	. . .	<i>Bacillus thuringiensis</i> crystal protein (delta-endotoxin)			
2333/33	. .	from <i>Clostridium</i> (G)			
2333/335	. .	from <i>Lactobacillus</i> (G)			
2333/34	. .	from <i>Corynebacterium</i> (G)			
2333/345	. .	from <i>Brevibacterium</i> (G)			
2333/35	. .	from Mycobacteriaceae (F)			
2333/355	. .	from <i>Nocardia</i> (G)			
2333/36	. .	from Actinomyces; from <i>Streptomyces</i> (G)			
2333/365	. .	from Actinoplanes (G)			
2333/37	. .	from fungi			
2333/375	. .	from Basidiomycetes			

2333/4703	. . . . .	Regulators; Modulating activity	2333/523	. . . . .	Beta-chemokines, e.g. RANTES, I-309/ TCA-3, MIP-1alpha, MIP-1beta/ACT-2/ LD78/SCIF, MCP-1/MCAF, MCP-2, MCP-3, LDCF-1or LDCF-2
2333/4704	. . . . .	Inhibitors; Suppressors	2333/524	. . . . .	Thrombopoietin, i.e. C-MPL ligand
2333/4706	. . . . .	stimulating, promoting or activating activity	2333/525	. . . . .	Tumor necrosis factor [TNF]
2333/4707	. . . . .	Guanosine triphosphatase activating protein, GAP	2333/5255	. . . . .	Lymphotoxin [LT]
2333/4709	. . . . .	Amyloid plaque core protein	2333/53	. . . . .	Colony-stimulating factor [CSF]
2333/471	. . . . .	Pregnancy proteins, e.g. placenta proteins, alpha-feto-protein, pregnancy specific beta glycoprotein	2333/535	. . . . .	Granulocyte CSF; Granulocyte-macrophage CSF
2333/4712	. . . . .	Muscle proteins, e.g. myosin, actin, protein	2333/54	. . . . .	Interleukins [IL]
2333/4713	. . . . .	Plasma globulins, lactoglobulin	2333/5403	. . . . .	IL-3
2333/4715	. . . . .	Cytokine-induced proteins	2333/5406	. . . . .	IL-4
2333/4716	. . . . .	Complement proteins, e.g. anaphylatoxin, C3a, C5a	2333/5409	. . . . .	IL-5
2333/4718	. . . . .	Lipocortins	2333/5412	. . . . .	IL-6
2333/4719	. . . . .	G-proteins	2333/5415	. . . . .	Leukaemia inhibitory factor [LIF]
2333/4721	. . . . .	Cationic antimicrobial peptides, e.g. defensins	2333/5418	. . . . .	IL-7
2333/4722	. . . . .	Proteoglycans, e.g. aggrecan	2333/5421	. . . . .	IL-8
2333/4724	. . . . .	Lectins	2333/5425	. . . . .	IL-9
2333/4725	. . . . .	Mucins, e.g. human intestinal mucin	2333/5428	. . . . .	IL-10
2333/4727	. . . . .	Calcium binding proteins, e.g. calmodulin	2333/5431	. . . . .	IL-11
2333/4728	. . . . .	alpha-Glycoproteins	2333/5434	. . . . .	IL-12
2333/473	. . . . .	Recognins, e.g. malignin	2333/5437	. . . . .	IL-13
2333/4731	. . . . .	Casein	2333/544	. . . . .	IL-14
2333/4733	. . . . .	Acute pancreatitis-associated protein	2333/5443	. . . . .	IL-15
2333/4734	. . . . .	Villin	2333/5446	. . . . .	IL-16
2333/4736	. . . . .	Retinoblastoma protein	2333/545	. . . . .	IL-1
2333/4737	. . . . .	C-reactive protein	2333/55	. . . . .	IL-2
2333/4739	. . . . .	Cyclin; Prad 1	2333/555	. . . . .	Interferons [IFN]
2333/474	. . . . .	Pancreatic thread protein; Reg protein	2333/56	. . . . .	IFN-alpha
2333/4742	. . . . .	Keratin; Cytokeratin	2333/565	. . . . .	IFN-beta
2333/4743	. . . . .	Bactericidal/Permeability-increasing protein BPI	2333/57	. . . . .	IFN-gamma
2333/4745	. . . . .	Insulin-like growth factor binding protein	2333/575	. . . . .	Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin G01N 2333/665, corticotropin G01N 2333/695)
2333/4746	. . . . .	Cancer-associated SCM-recognition factor, CRISPP	2333/5751	. . . . .	Corticotropin releasing factor [CRF] (Urotensin)
2333/4748	. . . . .	p53	2333/5752	. . . . .	Placental lactogen; Chorionic Somatomammotropin
2333/475	. . . . .	Assays involving growth factors	2333/5753	. . . . .	Calcitonin gene related peptide
2333/4753	. . . . .	Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II	2333/5754	. . . . .	Endothelin, vasoactive intestinal contractor [VIC]
2333/4756	. . . . .	Neuregulins, i.e. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor	2333/5755	. . . . .	Neuropeptide Y
2333/48	. . . . .	Nerve growth factor [NGF]	2333/5756	. . . . .	Prolactin
2333/485	. . . . .	Epidermal growth factor [EGF] (urogastrone)	2333/5757	. . . . .	Vasoactive intestinal peptide [VIP] or related peptides
2333/49	. . . . .	Platelet-derived growth factor [PDGF]	2333/5758	. . . . .	Gastrin releasing peptide
2333/495	. . . . .	Transforming growth factor [TGF]	2333/5759	. . . . .	Thymosin or related peptides
2333/50	. . . . .	Fibroblast growth factors [FGF]	2333/58	. . . . .	Atrial natriuretic factor complex; Atriopeptin; Atrial natriuretic peptide [ANP]; Brain natriuretic peptide [BNP, proBNP]; Cardionatin; Cardiodilatin
2333/501	. . . . .	acidic FGF [aFGF]	2333/585	. . . . .	Calcitonins
2333/503	. . . . .	basic FGF [bFGF]	2333/59	. . . . .	Follicle-stimulating hormone [FSH]; Chorionic gonadotropins, e.g. HCG; Luteinising hormone [LH]; Thyroid-stimulating hormone [TSH]
2333/505	. . . . .	Erythropoietin [EPO]	2333/595	. . . . .	Gastrins; Cholecystokinins [CCK]
2333/51	. . . . .	Bone morphogenetic factor; Osteogenins; Osteogenic factor; Bone-inducing factor	2333/60	. . . . .	Growth-hormone releasing factors (GH-RF) (Somatoliberin)
2333/515	. . . . .	Angiogenesis factors; Angiogenin	2333/605	. . . . .	Glucagons
2333/52	. . . . .	Assays involving cytokines	2333/61	. . . . .	Growth hormones [GH] (Somatotropin)
2333/521	. . . . .	Chemokines	2333/62	. . . . .	Insulins
2333/522	Alpha-chemokines, e.g. NAP-2, ENA-78, GRO-alpha/MGSA/NAP-3, GRO-beta/ MIP-2alpha, GRO-gamma/MIP-2beta, IP-10, GCP-2, MIG, PBSF, PF-4 or KC	2333/63	Motilins

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- 2333/635 . . . Parathyroid hormone (parathormone); Parathyroid hormone-related peptides
- 2333/64 . . . Relaxins
- 2333/645 . . . Secretins
- 2333/65 . . . Insulin-like growth factors (Somatomedins), e.g. IGF-1, IGF-2
- 2333/655 . . . Somatostatins
- 2333/66 . . . Thymopoietins
- 2333/665 . . Assays involving proteins derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin
- 2333/67 . . . Lipotropins, e.g. beta, gamma lipotropin
- 2333/675 . . . beta-Endorphins
- 2333/68 . . . Melanocyte-stimulating hormone [MSH]
- 2333/685 alpha-Melanotropin
- 2333/69 beta-Melanotropin
- 2333/695 . . . Corticotropin [ACTH]
- 2333/70 . . . Enkephalins
- 2333/705 . . Assays involving receptors, cell surface antigens or cell surface determinants
- 2333/70503 . . . Immunoglobulin superfamily, e.g. VCAMs, PECAM, LFA-3
- 2333/70507 C2D
- 2333/7051 T-cell receptor (TcR)-CD3 complex
- 2333/70514 CD4
- 2333/70517 CD8
- 2333/70521 CD28, CD152
- 2333/70525 ICAM molecules, e.g. CD50, CD54, CD102
- 2333/70528 CD58
- 2333/70532 B7 molecules, e.g. CD80, CD86
- 2333/70535 Fc-receptors, e.g. CD16, CD32, CD64 (CD2314/705F)
- 2333/70539 MHC-molecules, e.g. HLA-molecules
- 2333/70542 CD106
- 2333/70546 . . . Integrin superfamily, e.g. VLAs, leuCAM, GPIIb/GPIIIa, LPAM
- 2333/7055 Integrin beta1-subunit-containing molecules, e.g. CD29, CD49
- 2333/70553 Integrin beta2-subunit-containing molecules, e.g. CD11, CD18
- 2333/70557 Integrin beta3-subunit-containing molecules, e.g. CD41, CD51, CD61
- 2333/7056 . . . Selectin superfamily, e.g. LAM-1, GlyCAM, ELAM-1, PADGEM
- 2333/70564 Selectins, e.g. CD62
- 2333/70567 . . . Nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, nuclear orphan receptors
- 2333/70571 . . . for neuromediators, e.g. serotonin receptor, dopamine receptor
- 2333/70575 . . . NGF/TNF-superfamily, e.g. CD70, CD95L, CD153 or CD154 ([NGF G01N 2333/48](#), [TNF G01N 2333/525](#))
- 2333/70578 . . . NGF-receptor/TNF-receptor superfamily, e.g. CD27, CD30 CD40 or CD95 ([NGF-receptor G01N 2333/71](#), [TNF-receptor G01N 2333/7151](#))
- 2333/70582 . . . CD71
- 2333/70585 . . . CD44
- 2333/70589 . . . CD45
- 2333/70592 . . . CD52
- 2333/70596 . . . Molecules with a "CD"-designation not provided for elsewhere in [G01N 2333/705](#)
- 2333/71 . . . for growth factors; for growth regulators
- 2333/715 . . . for cytokines; for lymphokines; for interferons
- 2333/7151 for tumor necrosis factor [TNF]; for lymphotoxin [LT]
- 2333/7153 or colony-stimulating factors [CSF]
- 2333/7155 for interleukins [IL]
- 2333/7156 for interferons [IFN]
- 2333/7158 for chemokines
- 2333/72 . . . for hormones ([for neuromediators G01N 2333/70571](#))
- 2333/723 Steroid/thyroid hormone superfamily, e.g. GR, EcR, androgen receptor, oestrogen receptor
- 2333/726 G protein coupled receptor, e.g. TSHR-thyrotropin-receptor, LH/hCG receptor, FSH
- 2333/745 . . Assays involving non-enzymic blood coagulation factors
- 2333/7452 . . . Thrombomodulin
- 2333/7454 . . . Tissue factor (tissue thromboplastin, Factor III)
- 2333/7456 . . . Factor V
- 2333/7458 . . . Protein S
- 2333/75 . . . Fibrin; Fibrinogen
- 2333/755 . . . Factors VIII, e.g. factor VIII C [AHF], factor VIII Ag [VWF]
- 2333/76 . . Assays involving albumins other than in routine use for blocking surfaces or for anchoring haptens during immunisation
- 2333/765 . . . Serum albumin, e.g. HSA
- 2333/77 . . . Ovalbumin
- 2333/775 . . . Apolipopptides
- 2333/78 . . . Connective tissue peptides, e.g. collagen, elastin, laminin, fibronectin, vitronectin, cold insoluble globulin [CIG]
- 2333/785 . . . Alveolar surfactant peptides; Pulmonary surfactant peptides
- 2333/79 . . . Transferrins, e.g. lactoferrins, ovotransferrins
- 2333/795 . . . Porphyrin- or corrin-ring-containing peptides
- 2333/80 . . . Cytochromes
- 2333/805 . . . Haemoglobins; Myoglobins
- 2333/81 . . . Protease inhibitors
- 2333/8103 . . . Exopeptidase (E.C. 3.4.11-19) inhibitors
- 2333/8107 . . . Endopeptidase (E.C. 3.4.21-99) inhibitors
- 2333/811 Serine protease (E.C. 3.4.21) inhibitors
- 2333/8114 Kunitz type inhibitors
- 2333/8117 Bovine/basic pancreatic trypsin inhibitor (BPTI, aprotinin)
- 2333/8121 Serpins
- 2333/8125 Alpha-1-antitrypsin
- 2333/8128 Antithrombin III
- 2333/8132 Plasminogen activator inhibitors
- 2333/8135 Kazal type inhibitors, e.g. pancreatic secretory inhibitor or ovomucoid
- 2333/8139 . . . Cysteine protease (E.C. 3.4.22) inhibitors, e.g. cystatin
- 2333/8142 . . . Aspartate protease (E.C. 3.4.23) inhibitors, e.g. HIV protease inhibitors
- 2333/8146 . . . Metalloprotease (E.C. 3.4.24) inhibitors, e.g. tissue inhibitor of metallo proteinase, TIMP
- 2333/815 . . . from leeches, e.g. hirudin, eglin
- 2333/82 . . . Translation products from oncogenes
- 2333/825 . . . Metallothioneins

- 2333/90 . Enzymes; Proenzymes
- NOTE**
- Enzymes are generally categorised below according to the "Nomenclature and Classification of Enzymes" of the International Commission on Enzymes. Where appropriate, this designation appears in the groups below in parenthesis.
- 2333/9005 . . Enzymes with nucleic acid structure; e.g. ribozymes
- 2333/901 . . Antibodies with enzymatic activity; e.g. abzymes
- 2333/9015 . . Ligases (6)
- 2333/902 . . Oxidoreductases (1.)
- 2333/90203 . . . acting on the aldehyde or oxo group of donors (1.2)
- 2333/90206 . . . acting on the CH-CH group of donors (1.3)
- 2333/90209 . . . acting on NADH or NADPH (1.6), e.g. those with a heme protein as acceptor (1.6.2) (general), Cytochrome-b5 reductase (1.6.2.2) or NADPH-cytochrome P450 reductase (1.6.2.4)
- 2333/90212 . . . acting on a sulfur group of donors (1.8)
- 2333/90216 . . . acting on a heme group of donors (1.9)
- 2333/90219 . . . acting on diphenols and related substances as donors (1.10)
- 2333/90222 with oxygen as acceptor (1.10.3) in general
- 2333/90225 with a definite EC number (1.10.3.-)
- 2333/90229 Catechol oxidase, i.e. Tyrosinase (1.10.3.1)
- 2333/90232 Laccase (1.10.3.2)
- 2333/90235 Ascorbate oxidase (1.10.3.3)
- 2333/90238 . . . acting on hydrogen as donor (1.12)
- 2333/90241 . . . acting on single donors with incorporation of molecular oxygen, i.e. oxygenases (1.13)
- 2333/90245 . . . acting on paired donors with incorporation of molecular oxygen (1.14)
- 2333/90248 with NADH or NADPH as one of the donors, and incorporation of one atom of oxygen 1.14.13
- 2333/90251 with a definite EC number (1.14.13.-)
- 2333/90254 Nitric-oxide synthase (NOS; 1.14.13.39)
- 2333/90258 with a reduced iron-sulfur protein as one donor (1.14.15) in general
- 2333/90261 with a definite EC number (1.14.15.-)
- 2333/90264 Steroid 11 beta monooxygenase (P-450 protein)(1.14.15.4)
- 2333/90267 Cholesterol monooxygenase (cytochrome P 450sc)(1.14.15.6)
- 2333/9027 Miscellaneous (1.14.99)
- 2333/90274 with a definite EC number (1.14.99.-)
- 2333/90277 Steroid 17 alpha-monooxygenase (1.14.99.9)
- 2333/9028 Steroid 21-monooxygenase (1.14.99.10)
- 2333/90283 . . . acting on superoxide radicals as acceptor (1.15)
- 2333/90287 . . . oxidising metal ions (1.16)
- 2333/9029 . . . acting on -CH₂- groups (1.17)
- 2333/90293 . . . acting on reduced ferredoxin as donor (1.18)
- 2333/90296 . . . acting on reduced flavodoxin as donor (1.19)
- 2333/904 . . . acting on CHOH groups as donors, e.g. glucose oxidase, lactate dehydrogenase (1.1)
- 2333/906 . . . acting on nitrogen containing compounds as donors (1.4, 1.5, 1.7)
- 2333/90605 acting on the CH-NH₂ group of donors (1.4)
- 2333/90611 with NAD or NADP as acceptor (1.4.1) in general
- 2333/90616 with a definite EC number (1.4.1.-)
- 2333/90622 Phenylalanine dehydrogenase (1.4.1.20)
- 2333/90627 with a cytochrome as acceptor (1.4.2)
- 2333/90633 with oxygen as acceptor (1.4.3) in general
- 2333/90638 with a definite EC number (1.4.3.-)
- 2333/90644 D-Amino acid oxidase (1.4.3.3)
- 2333/9065 acting on CH-NH groups of donors (1.5)
- 2333/90655 with NAD or NADP as acceptor (1.5.1) in general
- 2333/90661 with a definite EC number (1.5.1.-)
- 2333/90666 Dihydrofolate reductase [DHFR] (1.5.1.3)
- 2333/90672 with oxygen as acceptor (1.5.3) in general
- 2333/90677 with a definite EC number (1.5.3.-)
- 2333/90683 Sarcosine oxidase (1.5.3.1)
- 2333/90688 acting on other nitrogen compounds as donors (1.7)
- 2333/90694 with oxygen as acceptor (1.7.3), e.g. uricase (1.7.3.3)
- 2333/908 . . . acting on hydrogen peroxide as acceptor (1.11)
- 2333/91 . . Transferases (2.)
- 2333/91005 . . . transferring one-carbon groups (2.1)
- 2333/91011 Methyltransferases (general) (2.1.1.)
- 2333/91017 with definite EC number (2.1.1.-)
- 2333/91022 Catecholmethyltransferases (2.1.1.6)
- 2333/91028 Hydroxymethyl-, formyl-transferases (2.1.2)
- 2333/91034 Carboxyl- and carbamoyl transferases (2.1.3)
- 2333/9104 . . . Aldehyde and ketone transferases (2.2)
- 2333/91045 . . . Acyltransferases (2.3)
- 2333/91051 Acyltransferases other than aminoacyltransferases (general) (2.3.1)
- 2333/91057 with definite EC number (2.3.1.-)
- 2333/91062 Chloramphenicol-acetyltransferases (2.3.1.28)
- 2333/91068 Chalcone synthases (2.3.1.74)
- 2333/91074 Aminoacyltransferases (general) (2.3.2)
- 2333/9108 with definite EC number (2.3.2.-)
- 2333/91085 Transglutaminases; Factor XIIIq (2.3.2.13)
- 2333/91091 . . . Glycosyltransferases (2.4)
- 2333/91097 Hexosyltransferases (general) (2.4.1)
- 2333/91102 with definite EC number (2.4.1.-)
- 2333/91108 Levansucrases (2.4.1.10)
- 2333/91114 Cellulose synthases (2.4.1.12)
- 2333/9112 Sucrose synthases (2.4.1.13)
- 2333/91125 Sucrose phosphate synthases (2.4.1.14)
- 2333/91131 Glucan branching enzymes (2.4.1.18)
- 2333/91137 Cyclomalto dextrin glucano transferases (2.4.1.19)
- 2333/91142 Pentosyltransferases (2.4.2)
- 2333/91148 transferring other glycosyl groups (2.4.99)
- 2333/91154 transferring alkyl or aryl groups other than methyl groups (2.5)
- 2333/9116 . . . transferring alkyl or aryl groups other than methyl groups (2.5)
- 2333/91165 general (2.5.1)
- 2333/91171 with definite EC number (2.5.1.-)
- 2333/91177 Glutathione transferases (2.5.1.18)

2333/91182	. . . . . Enolpyruvylshikimate-phosphate synthases (2.5.1.19)	2333/944	. . . . . acting on alpha-1, 6-glucosidic bonds, e.g. isoamylase, pullulanase
2333/91188	. . . . . transferring nitrogenous groups (2.6)	2333/946	. . . . . Dextranase
2333/91194	. . . . . transferring sulfur containing groups (2.8)	2333/948	. . . . . acting on peptide bonds (3.4)
2333/912	. . . . . transferring phosphorus containing groups, e.g. kinases (2.7)	2333/95	. . . . . Proteinases, i.e. endopeptidases (3.4.21-3.4.99)
2333/91205	. . . . . Phosphotransferases in general	2333/9506	. . . . . derived from viruses
2333/9121	. . . . . with an alcohol group as acceptor (2.7.1), e.g. general tyrosine, serine or threonine kinases	2333/9513	. . . . . derived from RNA viruses
2333/91215	. . . . . with a definite EC number (2.7.1.-)	2333/952	. . . . . derived from bacteria
2333/9122	. . . . . Thymidine kinase (2.7.1.21)	2333/954	. . . . . bacteria being Bacillus
2333/91225	. . . . . with a carboxyl group as acceptor (2.7.2)	2333/956	. . . . . Bacillus subtilis or Bacillus licheniformis
2333/9123	. . . . . with a nitrogenous group as acceptor (2.7.3), e.g. histidine kinases	2333/958	. . . . . derived from fungi
2333/91235	. . . . . with a phosphate group as acceptor (2.7.4)	2333/96	. . . . . from yeast
2333/9124	. . . . . Diphosphotransferases (2.7.6)	2333/962	. . . . . from Aspergillus
2333/91245	. . . . . Nucleotidyltransferases (2.7.7)	2333/964	. . . . . derived from animal tissue
2333/9125	. . . . . with a definite EC number (2.7.7.-)	2333/96402	. . . . . from non-mammals
2333/91255	. . . . . DNA-directed RNA polymerase (2.7.7.6)	2333/96405	. . . . . in general
2333/9126	. . . . . DNA-directed DNA polymerase (2.7.7.7)	2333/96408	. . . . . with EC number
2333/91265	. . . . . Polyribonucleotide nucleotidyl transferases, i.e. polynucleotide phosphorylase (2.7.7.8)	2333/96411	. . . . . Serine endopeptidases (3.4.21)
2333/9127	. . . . . DNA nucleotidyl-exotransferases, i.e. terminal nucleotidyl transferases (2.7.7.31)	2333/96413	. . . . . Cysteine endopeptidases (3.4.22)
2333/91275	. . . . . RNA-directed RNA polymerases, e.g. replicases (2.7.7.48)	2333/96416	. . . . . Aspartic endopeptidases (3.4.23)
2333/9128	. . . . . RNA-directed DNA polymerases, e.g. RT (2.7.7.49)	2333/96419	. . . . . Metalloendopeptidases (3.4.24)
2333/91285	. . . . . RNA uridyltransferases (2.7.7.52)	2333/96422	. . . . . from snakes
2333/9129	. . . . . Transferases for other substituted phosphate groups (2.7.8)	2333/96425	. . . . . from mammals
2333/91295	. . . . . with paired acceptors (2.7.9)	2333/96427	. . . . . in general
2333/914	. . . . . Hydrolases (3)	2333/9643	. . . . . with EC number
2333/916	. . . . . acting on ester bonds (3.1), e.g. phosphatases (3.1.3), phospholipases C or phospholipases D (3.1.4)	2333/96433	. . . . . Serine endopeptidases (3.4.21)
2333/918	. . . . . Carboxylic ester hydrolases (3.1.1)	2333/96436	. . . . . Granzymes
2333/92	. . . . . Triglyceride splitting, e.g. by means of lipase	2333/96438	. . . . . Dibasic site splicing serine proteases, e.g. furin
2333/922	. . . . . Ribonucleases (RNAses); Deoxyribonucleases (DNAses)	2333/96441	. . . . . with definite EC number
2333/924	. . . . . acting on glycosyl compounds (3.2)	2333/96444	. . . . . Factor X (3.4.21.6)
2333/926	. . . . . acting on alpha -1, 4-glucosidic bonds, e.g. hyaluronidase, invertase, amylase	2333/96447	. . . . . Factor VII (3.4.21.21)
2333/928	. . . . . acting on alpha -1, 4-glucosidic bonds, e.g. hyaluronidase, invertase, amylase	2333/9645	. . . . . Factor IX (3.4.21.22)
2333/93	. . . . . Fungal source	2333/96452	. . . . . Factor XI (3.4.21.27)
2333/932	. . . . . alpha-amylase from plant source	2333/96455	. . . . . Kallikrein (3.4.21.34; 3.4.21.35)
2333/934	. . . . . Glucoamylase	2333/96458	. . . . . Factor XII (3.4.21.38)
2333/936	. . . . . acting on beta-1, 4 bonds between N-acetylmuramic acid and 2-acetyl-amino 2-deoxy-D-glucose, e.g. lysozyme	2333/96461	. . . . . Protein C (3.4.21.69)
2333/938	. . . . . acting on beta-galactose-glycoside bonds, e.g. beta-galactosidase	2333/96463	. . . . . Blood coagulation factors not provided for in a preceding group or according to more than one of the proceeding groups
2333/94	. . . . . acting on alpha-galactose-glycoside bonds, e.g. alpha-galactosidase	2333/96466	. . . . . Cysteine endopeptidases (3.4.22)
2333/942	. . . . . acting on beta-1, 4-glucosidic bonds, e.g. cellulase	2333/96469	. . . . . Interleukin 1-beta convertase-like enzymes
		2333/96472	. . . . . Aspartic endopeptidases (3.4.23)
		2333/96475	. . . . . with definite EC number
		2333/96477	. . . . . Pepsin (3.4.23.1; 3.4.23.2; 3.4.23.3)
		2333/9648	. . . . . Chymosin, i.e. rennin (3.4.23.4)
		2333/96483	. . . . . Renin (3.4.23.15)
		2333/96486	. . . . . Metalloendopeptidases (3.4.24)
		2333/96488	. . . . . Phosphoramidon sensitive endothelin converting enzymes
		2333/96491	. . . . . with definite EC number
		2333/96494	. . . . . Matrix metalloproteases, e.g. 3.4.24.7
		2333/96497	. . . . . Enkephalinase (3.4.24.11)

- 2333/966 Elastase
- 2333/968 Plasmin, i.e. fibrinolysin
- 2333/972 Plasminogen activators
- 2333/9723 Urokinase
- 2333/9726 Tissue plasminogen activator
- 2333/974 Thrombin
- 2333/976 Trypsin; Chymotrypsin
- 2333/978 . . . acting on carbon to nitrogen bonds other than peptide bonds (3.5)
- 2333/98 acting on amide bonds in linear amides (3.5.1)
- 2333/982 Asparaginase
- 2333/984 Penicillin amidase
- 2333/986 acting on amide bonds in cyclic amides (3.5.2), e.g. beta-lactamase (penicillinase, 3.5.2.6), creatinine amidohydrolase (creatininase, EC 3.5.2.10), N-methylhydantoinase (3.5.2.6)
- 2333/988 . . Lyases (4.), e.g. aldolases, heparinase, enolases, fumarase
- 2333/99 . . Isomerases (5.)
- 2333/992 . . . Glucose isomerase; Xylose isomerase; Glucose-6-phosphate isomerase
- 2333/994 . . Pancreatin
- 2400/00 Assays, e.g. immunoassays or enzyme assays, involving carbohydrates**
- 2400/02 . involving antibodies to sugar part of glycoproteins ([lectins from plants G01N 2333/42](#), [lectins from mammals G01N 2333/4724](#))
- 2400/10 . Polysaccharides, i.e. having more than five saccharide radicals attached to each other by glycosidic linkages; Derivatives thereof, e.g. ethers, esters
- 2400/12 . . Homoglycans, i.e. polysaccharides having a main chain consisting of one single sugar
- 2400/14 . . . alpha-D-Glucans, i.e. having alpha 1,n (n=3,4,6) linkages between saccharide units, e.g. pullulan
- 2400/16 Starch, amylose, amylopectin
- 2400/18 Cyclodextrin
- 2400/22 Dextran
- 2400/24 . . . beta-D-Glucans, i.e. having beta 1,n (n=3,4,6) linkages between saccharide units, e.g. xanthan
- 2400/26 Cellulose
- 2400/28 Chitin, chitosan
- 2400/32 . . . Galactans, e.g. agar, agarose, agaropectin, carrageenan
- 2400/34 . . . alpha-D-Galacturonans, e.g. pectin
- 2400/36 . . . beta-D-Fructofuranans, e.g. levan, insulin
- 2400/38 . . Heteroglycans, i.e. polysaccharides having more than one sugar residue in the main chain in either alternating or less regular sequence, e.g. gluco- or galactomannans, e.g. Konjac gum, Locust bean gum, Guar gum ([proteoglycans G01N 2333/4722](#))
- 2400/40 . . . Glycosaminoglycans, i.e. GAG or mucopolysaccharides, e.g. chondroitin sulfate, dermatan sulfate, hyaluronic acid, heparin, heparan sulfate, and related sulfated polysaccharides
- 2400/44 . . . Guluromannuronans, e.g. alginic acid
- 2400/46 . . Pectin
- 2400/48 . . Reserve carbohydrates, e.g. glycogen
- 2400/50 . . Lipopolysaccharides; LPS
- 2405/00 Assays, e.g. immunoassays or enzyme assays, involving lipids (lipopolysaccharides G01N 2400/50)**
- 2405/02 . Triacylglycerols
- 2405/04 . Phospholipids, i.e. phosphoglycerides
- 2405/06 . . Glycophospholipids, e.g. phosphatidyl inositol
- 2405/08 . Sphingolipids
- 2405/10 . . Glycosphingolipids, e.g. cerebrosides, gangliosides
- 2407/00 Assays, e.g. immunoassays or enzyme assays, involving terpenes**
- 2407/02 . Taxol; Taxanes
- 2410/00 Assays, e.g. immunoassays or enzyme assays, involving peptides of less than 20 amino acids**
- 2410/02 . Angiotensins; Related peptides
- 2410/04 . Oxytocins; Vasopressins; Related peptides
- 2410/06 . Kallidins; Bradykinins; Related peptides
- 2410/08 . Cyclosporins and related peptides
- 2410/10 . Valinomycins and derivatives thereof
- 2415/00 Assays, e.g. immunoassays or enzyme assays, involving penicillins or cephalosporins**
- 2430/00 Assays, e.g. immunoassays or enzyme assays, involving synthetic organic compounds as analytes**
- 2430/10 . Insecticides
- 2430/12 . . Pyrethroids
- 2430/20 . Herbicides, e.g. DDT
- 2430/30 . Polychlorinated biphenyls (PCBs)
- 2430/40 . Dioxins
- 2430/50 . Polyaromatic hydrocarbons (PAHs)
- 2430/60 . Synthetic polymers other than synthetic polypeptides as analytes
- 2440/00 Post-translational modifications [PTMs] in chemical analysis of biological material**
- 2440/10 . acylation, e.g. acetylation, formylation, lipoylation, myristoylation, palmitoylation
- 2440/12 . alkylation, e.g. methylation, (iso-)prenylation, farnesylation
- 2440/14 . phosphorylation
- 2440/16 . (de-)amidation
- 2440/18 . citrullination
- 2440/20 . formation of disulphide bridges
- 2440/22 . iodination
- 2440/24 . hydroxylation
- 2440/26 . nitrosylation
- 2440/28 . PEGylation
- 2440/30 . sulphation
- 2440/32 . biotinylation
- 2440/34 . addition of amino acid(s), e.g. arginylation, (poly-)glutamylolation, (poly-)glycylation
- 2440/36 . addition of addition of other proteins or peptides, e.g. SUMOylation, ubiquitination
- 2440/38 . addition of carbohydrates, e.g. glycosylation, glycation
- 2440/40 . addition of nucleotides or derivatives, e.g. adenylation, flavin attachment
- 2446/00 Magnetic particle immunoreagent carriers**
- 2446/10 . the magnetic material being used to coat a pre-existing polymer particle but not being present in the particle core
- 2446/20 . the magnetic material being present in the particle core

- 2446/30 . the magnetic material being dispersed in the polymer composition before their conversion into particulate form
- 2446/40 . the magnetic material being dispersed in the monomer composition prior to polymerisation
- 2446/60 . the magnetic material being dispersed in a medium other than the main solvent prior to incorporation into the polymer particle
- 2446/62 . . Magnetic material dispersed in water drop
- 2446/64 . . Magnetic material dispersed in oil drop
- 2446/66 . . Magnetic material dispersed in surfactant
- 2446/80 . characterised by the agent used to coat the magnetic particles, e.g. lipids
- 2446/84 . . Polymer coating, e.g. gelatin
- 2446/86 . . the coating being pre-functionalised for attaching immunoreagents, e.g. aminodextran
- 2446/90 . . characterised by small molecule linker used to couple immunoreagents to magnetic particles
- 2458/00 Labels used in chemical analysis of biological material**
- 2458/10 . Oligonucleotides as tagging agents for labelling antibodies
- 2458/15 . Non-radioactive isotope labels, e.g. for detection by mass spectrometry
- 2458/20 . Labels for detection by gas chromatography, e.g. haloaryl systems
- 2458/30 . Electrochemically active labels
- 2458/40 . Rare earth chelates
- 2469/00 Immunoassays for the detection of microorganisms**
- 2469/10 . Detection of antigens from microorganism in sample from host
- 2469/20 . Detection of antibodies in sample from host which are directed against antigens from microorganisms
- 2470/00 Immunochemical assays or immunoassays characterised by the reaction format or reaction type**
- 2470/04 . Sandwich assay format
- 2470/06 . . Second binding partner specifically binding complex of analyte with first binding partner
- 2470/10 . Competitive assay format
- 2470/12 . . Displacement or release-type competition
- 2474/00 Immunochemical assays or immunoassays characterised by detection mode or means of detection**
- 2474/10 . Immunoblots, e.g. Western blot or Dot blot
- 2474/20 . Immunohistochemistry assay
- 2496/00 Reference solutions for assays of biological material**
- 2496/05 . containing blood cells or plasma
- 2496/10 . containing particles to mimic blood cells
- 2496/15 . containing dyes to mimic optical absorption of, e.g. hemoglobin
- 2496/25 . containing added polymers to stabilise biological material against degradation or maintain viscosity or density, e.g. gelatin, polyacrylamides, polyvinyl alcohol ([casein G01N 2333/4731](#), [albumins G01N 2333/76](#), [polysaccharides G01N 2400/10](#))
- 2496/30 . . Polyethylene glycol, e.g. PEG
- 2496/35 . . Polyvinylpyrrolidone, e.g. PVP
- 2496/45 . containing protease inhibitors, e.g. sulfonylfluorides, chloromethylketones, organophosphates ([peptide-based protease inhibitors G01N 2333/81](#))
- 2496/70 . Blood gas control solutions containing dissolved oxygen, bicarbonate and the like
- 2496/80 . Multi-analyte reference solutions containing cholesterol, glucose and the like
- 2500/00 Screening for compounds of potential therapeutic value**
- 2500/02 . Screening involving studying the effect of compounds C on the interaction between interacting molecules A and B (e.g. A = enzyme and B = substrate for A, or A = receptor and B = ligand for the receptor)
- 2500/04 . Screening involving studying the effect of compounds C directly on molecule A (e.g. C are potential ligands for a receptor A, or potential substrates for an enzyme A)
- 2500/10 . involving cells
- 2500/20 . cell-free systems
- 2510/00 Detection of programmed cell death, i.e. apoptosis**
- 2520/00 Use of whole organisms as detectors of pollution**
- 2550/00 Electrophoretic profiling, e.g. for proteome analysis**
- 2560/00 Chemical aspects of mass spectrometric analysis of biological material**
- NOTES**
1. Analysis of proteins, peptides or amino acids by mass spectrometry is classified in [G01N 33/6848](#) and [G01N 33/6851](#).
 2. Analysis of nucleic acids by mass spectrometry is classified in [C12Q 1/6872](#), [C12Q 2563/167](#) and [C12Q 2565/627](#).
- 2570/00 Omics, e.g. proteomics, glycomics or lipidomics; Methods of analysis focusing on the entire complement of classes of biological molecules or subsets thereof, i.e. focusing on proteomes, glycomes or lipidomes**
- 2600/00 Assays involving molecular imprinted polymers/ polymers created around a molecular template**
- 2610/00 Assays involving self-assembled monolayers [SAMs]**
- 2650/00 Assays involving polymers whose constituent monomers bore biological functional groups before polymerization, i.e. vinyl, acryl derivatives of amino acids, sugars**
- 2800/00 Detection or diagnosis of diseases**
- NOTES**
1. The indexing codes [G01N 2800/02](#) - [G01N 2800/44](#) are based on The Merck Manual of Diagnosis and Therapy (17th. Edition, Mark Beers and Robert Berkow).
 2. For diseases caused by microorganism where the microorganism is detected, which subject matter is classified in [G01N 33/569](#) and subgroups, [G01N 33/571](#) or [G01N 33/576](#), the present indexing scheme is not used.

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(continued)

3. For cancers, which subject matter is classified in [G01N 33/574](#) and subgroups, the present indexing scheme is not used.
4. When indexing in the following scheme, the organ takes precedence, e.g. inflammation of the skin is indexed with dermatological disorders and not with immunology or allergic disorders, asthma with pulmonary disorders and not with immunology or allergic disorders. Exception is made for thrombosis which is indexed with haematological disorders.

2800/02 . Nutritional disorders
2800/04 . Endocrine or metabolic disorders
2800/042 . . Disorders of carbohydrate metabolism, e.g. diabetes, glucose metabolism
2800/044 . . Hyperlipemia or hypolipemia, e.g. dyslipidaemia, obesity
2800/046 . . Thyroid disorders
2800/048 . . Pituitary or hypothalamic - pituitary relationships, e.g. vasopressin or ADH related
2800/06 . Gastro-intestinal diseases
2800/062 . . Gastritis or peptic ulcer disease
2800/065 . . Bowel diseases, e.g. Crohn, ulcerative colitis, IBS
2800/067 . . Pancreatitis or colitis
2800/08 . Hepato-biliary disorders other than hepatitis
2800/085 . . Liver diseases, e.g. portal hypertension, fibrosis, cirrhosis, bilirubin
2800/10 . Musculoskeletal or connective tissue disorders
2800/101 . . Diffuse connective tissue disease, e.g. Sjögren, Wegener's granulomatosis
2800/102 . . . Arthritis; Rheumatoid arthritis, i.e. inflammation of peripheral joints
2800/104 . . . Lupus erythematosus [SLE]
2800/105 . . Osteoarthritis, e.g. cartilage alteration, hypertrophy of bone
2800/107 . . Crystal induced conditions; Gout
2800/108 . . Osteoporosis
2800/12 . Pulmonary diseases
2800/122 . . Chronic or obstructive airway disorders, e.g. asthma COPD
2800/125 . . Adult respiratory distress syndrome
2800/127 . . Bronchitis
2800/14 . Disorders of ear, nose or throat
2800/16 . Ophthalmology
2800/162 . . Conjunctival disorders, e.g. conjunctivitis
2800/164 . . Retinal disorders, e.g. retinopathy
2800/166 . . Cataract
2800/168 . . Glaucoma
2800/18 . Dental and oral disorders
2800/20 . Dermatological disorders
2800/202 . . Dermatitis
2800/205 . . Scaling palpular diseases, e.g. psoriasis, pityriasis
2800/207 . . Pigmentation disorders
2800/22 . Haematology
2800/222 . . Platelet disorders
2800/224 . . Haemostasis or coagulation
2800/226 . . Thrombotic disorders, i.e. thrombo-embolism irrespective of location/organ involved, e.g. renal vein thrombosis, venous thrombosis
2800/228 . . Disorders of the spleen, e.g. splenic rupture, splenomegaly

2800/24 . Immunology or allergic disorders ([SLE G01N 2800/104](#))
2800/245 . . Transplantation related diseases, e.g. graft versus host disease
2800/26 . Infectious diseases, e.g. generalised sepsis

NOTE

Indexing code [G01N 2800/26](#) is not used for documents already classified in one or more of groups [G01N 33/569](#) and subgroups, [G01N 33/571](#) or [G01N 33/576](#) and subgroups

2800/28 . Neurological disorders
2800/2807 . . Headache; Migraine
2800/2814 . . Dementia; Cognitive disorders
2800/2821 . . . Alzheimer
2800/2828 . . . Prion diseases
2800/2835 . . Movement disorders, e.g. Parkinson, Huntington, Tourette
2800/2842 . . Pain, e.g. neuropathic pain, psychogenic pain
2800/285 . . Demyelinating diseases; Multiple sclerosis
2800/2857 . . Seizure disorders; Epilepsy
2800/2864 . . Sleep disorders
2800/2871 . . Cerebrovascular disorders, e.g. stroke, cerebral infarct, cerebral haemorrhage, transient ischemic event
2800/2878 . . Muscular dystrophy
2800/2885 . . . Duchenne dystrophy
2800/2892 . . . Myotonic dystrophy
2800/30 . Psychoses; Psychiatry
2800/301 . . Anxiety or phobic disorders
2800/302 . . Schizophrenia
2800/303 . . Eating disorders, e.g. anorexia, bulimia
2800/304 . . Mood disorders, e.g. bipolar, depression
2800/305 . . Attention deficit disorder; Hyperactivity
2800/306 . . Chronic fatigue syndrome
2800/307 . . Drug dependency, e.g. alcoholism
2800/308 . . Psychosexual disorders, e.g. sexual arousal disorder
2800/32 . Cardiovascular disorders
2800/321 . . Arterial hypertension
2800/322 . . Orthostatic hypertension or syncope
2800/323 . . Arteriosclerosis, Stenosis
2800/324 . . Coronary artery diseases, e.g. angina pectoris, myocardial infarction
2800/325 . . Heart failure or cardiac arrest, e.g. cardiomyopathy, congestive heart failure
2800/326 . . Arrhythmias, e.g. ventricular fibrillation, tachycardia, atrioventricular block, torsade de pointes
2800/327 . . Endocarditis
2800/328 . . Vasculitis, i.e. inflammation of blood vessels
2800/329 . . Diseases of the aorta or its branches, e.g. aneurysms, aortic dissection
2800/34 . Genitourinary disorders
2800/341 . . Urinary incontinence
2800/342 . . Prostate diseases, e.g. BPH, prostatitis
2800/344 . . Disorders of the penis and the scrotum and erectile dysfunction
2800/345 . . Urinary calculi

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- 2800/347 . . Renal failures; Glomerular diseases; Tubulointerstitial diseases, e.g. nephritic syndrome, glomerulonephritis; Renovascular diseases, e.g. renal artery occlusion, nephropathy
- 2800/348 . . Urinary tract infections
- 2800/36 . Gynecology or obstetrics
- 2800/361 . . Menstrual abnormalities or abnormal uterine bleeding, e.g. dysmenorrhea
- 2800/362 . . Menopause
- 2800/364 . . Endometriosis, i.e. non-malignant disorder in which functioning endometrial tissue is present outside the uterine cavity
- 2800/365 . . Breast disorders, e.g. mastalgia, mastitis, Paget's disease
- 2800/367 . . Infertility, e.g. sperm disorder, ovulatory dysfunction
- 2800/368 . . Pregnancy complicated by disease or abnormalities of pregnancy, e.g. preeclampsia, preterm labour
- 2800/38 . Pediatrics
- 2800/382 . . Cystic fibrosis
- 2800/385 . . Congenital anomalies
- 2800/387 . . . Down syndrome; Trisomy 18; Trisomy 13
- 2800/40 . Disorders due to exposure to physical agents, e.g. heat disorders, motion sickness, radiation injuries, altitude sickness, decompression illness
- 2800/42 . Poisoning, e.g. from bites or stings
- 2800/44 . Multiple drug resistance
- 2800/50 . Determining the risk of developing a disease
- 2800/52 . Predicting or monitoring the response to treatment, e.g. for selection of therapy based on assay results in personalised medicine; Prognosis
- 2800/54 . Determining the risk of relapse
- 2800/56 . Staging of a disease; Further complications associated with the disease
- 2800/60 . Complex ways of combining multiple protein biomarkers for diagnosis
- 2800/70 . Mechanisms involved in disease identification ([G01N 2800/02](#) - [G01N 2800/44](#) take precedence)
- 2800/7004 . . Stress
- 2800/7009 . . . Oxidative stress
- 2800/7014 . . (Neo)vascularisation - Angiogenesis
- 2800/7019 . . Ischaemia
- 2800/7023 . . (Hyper)proliferation
- 2800/7028 . . . Cancer
- 2800/7033 . . Non-proliferative mechanisms
- 2800/7038 . . Hypoxia
- 2800/7042 . . Aging, e.g. cellular aging
- 2800/7047 . . Fibrils-Filaments-Plaques formation
- 2800/7052 . . Fibrosis
- 2800/7057 . . (Intracellular) signaling and trafficking pathways
- 2800/7061 . . . Endoplasmic reticulum to Golgi trafficking
- 2800/7066 . . . Metabolic pathways
- 2800/7071 Carbohydrate metabolism, e.g. glycolysis, gluconeogenesis
- 2800/7076 Amino acid metabolism
- 2800/708 Nitrogen metabolism, e.g. urea cycle
- 2800/7085 Lipogenesis or lipolysis, e.g. fatty acid metabolism
- 2800/709 . . Toxin induced
- 2800/7095 . . Inflammation