

Symbol	Typ	Titel
C	Sektion	CHEMISTRY; METALLURGY
C12	Klasse	BIOCHEMISTRY; BEER; SPIRITS; WINE; VINEGAR; MICROBIOLOGY; ENZYMOLOGY; MUTATION OR GENETIC ENGINEERING
C12P	Unterklasse	FERMENTATION OR ENZYME-USING PROCESSES TO SYNTHESISE A DESIRED CHEMICAL COMPOUND OR COMPOSITION OR TO SEPARATE OPTICAL ISOMERS FROM A RACEMIC MIXTURE (fermentation processes to form a food composition A21 , A23; compounds in general, see the relevant compound class, e.g. C01 , C07; brewing of beer C12C; producing vinegar C12J; processes for producing enzymes C12N 9/00; DNA or RNA concerning genetic engineering, vectors, e.g. plasmids, or their isolation, preparation or purification C12N 15/00) [3]
C12P 1/00	Hauptgruppe	Preparation of compounds or compositions, not provided for in groups C12P 3/00 to C12P 39/00 , by using micro-organisms or enzymes; General processes for the preparation of compounds or compositions by using micro-organisms or enzymes [3]
C12P 1/02	1-Punkt Untergruppe	. by using fungi [3]
C12P 1/04	1-Punkt Untergruppe	. by using bacteria [3]
C12P 1/06	1-Punkt Untergruppe	. by using actinomycetales [3]
C12P 3/00	Hauptgruppe	Preparation of elements or inorganic compounds except carbon dioxide [3]
C12P 5/00	Hauptgruppe	Preparation of hydrocarbons [3]
C12P 5/02	1-Punkt Untergruppe	. acyclic (producing methane by anaerobic treatment of sludge C02F 11/04) [3]
C12P 7/00	Hauptgruppe	Preparation of oxygen-containing organic compounds [3]
C12P 7/02	1-Punkt Untergruppe	. containing a hydroxy group [3]
C12P 7/04	2-Punkt Untergruppe	. . acyclic [3]
C12P 7/06	3-Punkt Untergruppe	. . . Ethanol, i.e. non-beverage [3]
C12P 7/08	4-Punkt Untergruppe	 produced as by-product or from waste or cellulosic material substrate [3]
C12P 7/10	5-Punkt Untergruppe	 substrate containing cellulosic material [3]
C12P 7/12	5-Punkt Untergruppe	 substrate containing sulfite waste liquor or citrus waste [3]
C12P 7/14	4-Punkt Untergruppe	 Multiple stages of fermentation; Multiple types of micro-organisms or reuse for micro-organisms [3]
C12P 7/16	3-Punkt Untergruppe	. . . Butanols [3]
C12P 7/18	3-Punkt Untergruppe	. . . polyhydric [3]
C12P 7/20	4-Punkt Untergruppe	 Glycerol [3]
C12P 7/22	2-Punkt Untergruppe	. . aromatic [3]
C12P 7/24	1-Punkt Untergruppe	. containing a carbonyl group [3]
C12P 7/26	2-Punkt Untergruppe	. . Ketones [3]
C12P 7/28	3-Punkt Untergruppe	. . . Acetone-containing products [3]
C12P 7/30	4-Punkt Untergruppe	 produced from substrate containing inorganic compounds other than water [3]
C12P 7/32	4-Punkt Untergruppe	 produced from substrate containing inorganic nitrogen source [3]
C12P 7/34	4-Punkt Untergruppe	 produced from substrate containing protein as nitrogen source [3]

Symbol	Typ	Titel
C12P 7/36	4-Punkt Untergruppe	 produced from substrate containing grain or cereal material [3]
C12P 7/38	3-Punkt Untergruppe	. . . Cyclopentanone- or cyclopentadione- containing products [3]
C12P 7/40	1-Punkt Untergruppe	. containing a carboxyl group [3]
C12P 7/42	2-Punkt Untergruppe	. . Hydroxy carboxylic acids [3]
C12P 7/44	2-Punkt Untergruppe	. . Polycarboxylic acids [3]
C12P 7/46	3-Punkt Untergruppe	. . . Dicarboxylic acids having four or less carbon atoms, e.g. fumaric acid, maleic acid [3]
C12P 7/48	3-Punkt Untergruppe	. . . Tricarboxylic acids, e.g. citric acid [3]
C12P 7/50	3-Punkt Untergruppe	. . . having keto groups, e.g. 2-ketoglutaric acid [3]
C12P 7/52	2-Punkt Untergruppe	. . Propionic acid; Butyric acids [3]
C12P 7/54	2-Punkt Untergruppe	. . Acetic acid (vinegar C12J) [3]
C12P 7/56	2-Punkt Untergruppe	. . Lactic acid [3]
C12P 7/58	2-Punkt Untergruppe	. . Aldonic, ketoaldonic or saccharic acids (uronic acids C12P 19/00) [3]
C12P 7/60	3-Punkt Untergruppe	. . . 2-Ketogulonic acid [3]
C12P 7/62	1-Punkt Untergruppe	. Carboxylic acid esters [3]
C12P 7/64	1-Punkt Untergruppe	. Fats; Fatty oils; Ester-type waxes; Higher fatty acids, i.e. having at least seven carbon atoms in an unbroken chain bound to a carboxyl group; Oxidised oils or fats [3]
C12P 7/66	1-Punkt Untergruppe	. containing the quinoid structure [3]
C12P 9/00	Hauptgruppe	Preparation of organic compounds containing a metal or atom other than H, N, C, O, S, or halogen [3]
C12P 11/00	Hauptgruppe	Preparation of sulfur-containing organic compounds [3]
C12P 13/00	Hauptgruppe	Preparation of nitrogen-containing organic compounds [3]
C12P 13/02	1-Punkt Untergruppe	. Amides, e.g. chloramphenicol [3]
C12P 13/04	1-Punkt Untergruppe	. Alpha- or beta-amino acids [3]
C12P 13/06	2-Punkt Untergruppe	. . Alanine; Leucine; Isoleucine; Serine; Homoserine [3]
C12P 13/08	2-Punkt Untergruppe	. . Lysine; Diaminopimelic acid; Threonine; Valine [3]
C12P 13/10	2-Punkt Untergruppe	. . Citrulline; Arginine; Ornithine [3]
C12P 13/12	2-Punkt Untergruppe	. . Methionine; Cysteine; Cystine [3]
C12P 13/14	2-Punkt Untergruppe	. . Glutamic acid; Glutamine [3]
C12P 13/16	3-Punkt Untergruppe	. . . using surfactants, fatty acids or fatty acid esters, i.e. having at least seven carbon atoms in an unbroken chain bound to a carboxyl group or a carboxyl ester group [3]
C12P 13/18	3-Punkt Untergruppe	. . . using biotin or its derivatives [3]
C12P 13/20	2-Punkt Untergruppe	. . Aspartic acid; Asparagine [3]
C12P 13/22	2-Punkt Untergruppe	. . Tryptophan; Tyrosine; Phenylalanine; 3,4-Dihydroxyphenylalanine [3]
C12P 13/24	2-Punkt Untergruppe	. . Proline; Hydroxyproline; Histidine [3]
C12P 15/00	Hauptgruppe	Preparation of compounds containing at least three condensed carbocyclic rings [3]

Symbol	Typ	Titel
C12P 17/00	Hauptgruppe	Preparation of heterocyclic carbon compounds with only O, N, S, Se, or Te as ring hetero atoms (C12P 13/04 to C12P 13/24 take precedence) [3]
C12P 17/02	1-Punkt Untergruppe	. Oxygen as only ring hetero atoms [3]
C12P 17/04	2-Punkt Untergruppe	. . containing a five-membered hetero ring, e.g. griseofulvin [3]
C12P 17/06	2-Punkt Untergruppe	. . containing a six-membered hetero ring, e.g. fluorescein [3]
C12P 17/08	2-Punkt Untergruppe	. . containing a hetero ring of at least seven ring members, e.g. zearalenone, macrolide aglycons [3]
C12P 17/10	1-Punkt Untergruppe	. Nitrogen as only ring hetero atom [3]
C12P 17/12	2-Punkt Untergruppe	. . containing a six-membered hetero ring [3]
C12P 17/14	1-Punkt Untergruppe	. Nitrogen or oxygen as hetero atom and at least one other diverse hetero ring atom in the same ring [3]
C12P 17/16	1-Punkt Untergruppe	. containing two or more hetero rings [3]
C12P 17/18	1-Punkt Untergruppe	. containing at least two hetero rings condensed among themselves or condensed with a common carbocyclic ring system, e.g. rifamycin [3]
C12P 19/00	Hauptgruppe	Preparation of compounds containing saccharide radicals (ketoaldonic acids C12P 7/58) [3]
C12P 19/02	1-Punkt Untergruppe	. Monosaccharides (2-ketogulonic acid C12P 7/60) [3]
C12P 19/04	1-Punkt Untergruppe	. Polysaccharides, i.e. compounds containing more than five saccharide radicals attached to each other by glycosidic bonds [3]
C12P 19/06	2-Punkt Untergruppe	. . Xanthan, i.e. Xanthomonas-type heteropolysaccharides [3]
C12P 19/08	2-Punkt Untergruppe	. . Dextran [3]
C12P 19/10	2-Punkt Untergruppe	. . Pullulan [3]
C12P 19/12	1-Punkt Untergruppe	. Disaccharides [3]
C12P 19/14	1-Punkt Untergruppe	. produced by the action of a carbohydrase, e.g. by alpha-amylase [3]
C12P 19/16	1-Punkt Untergruppe	. produced by the action of an alpha-1, 6-glucosidase, e.g. amylose, debranched amylopectin (non-biological hydrolysis of starch C08B 30/00) [3]
C12P 19/18	1-Punkt Untergruppe	. produced by the action of a glycosyl transferase, e.g. alpha-, beta- or gamma-cyclodextrins [3]
C12P 19/20	1-Punkt Untergruppe	. produced by the action of an exo-1, 4 alpha-glucosidase, e.g. dextrose [3]
C12P 19/22	1-Punkt Untergruppe	. produced by the action of a beta-amylase, e.g. maltose [3]
C12P 19/24	1-Punkt Untergruppe	. produced by the action of an isomerase, e.g. fructose [3]
C12P 19/26	1-Punkt Untergruppe	. Preparation of nitrogen-containing carbohydrates [3]
C12P 19/28	2-Punkt Untergruppe	. . N-glycosides [3]
C12P 19/30	3-Punkt Untergruppe	. . . Nucleotides [3]
C12P 19/32	4-Punkt Untergruppe	 having a condensed ring system containing a six-membered ring having two nitrogen atoms in the same-ring, e.g. purine nucleotides, nicotineamide-adenine dinucleotide [3]
C12P 19/34	4-Punkt Untergruppe	 Polynucleotides, e.g. nucleic acids, oligoribonucleotides [3]
C12P 19/36	4-Punkt Untergruppe	 Dinucleotides, e.g. nicotineamide-adenine dinucleotide phosphate [3]
C12P 19/38	3-Punkt Untergruppe	. . . Nucleosides [3]

Symbol	Typ	Titel
C12P 19/40	4-Punkt Untergruppe	. . . having a condensed ring system containing a six-membered ring having two nitrogen atoms in the same ring, e.g. purine nucleosides [3]
C12P 19/42	3-Punkt Untergruppe	. . . Cobalamins, i.e. vitamin B ₁₂ , LLD factor [3]
C12P 19/44	1-Punkt Untergruppe	. Preparation of O-glycosides, e.g. glucosides [3]
C12P 19/46	2-Punkt Untergruppe	. . having an oxygen atom of the saccharide radical bound to a cyclohexyl radical, e.g. kasugamycin [3]
C12P 19/48	3-Punkt Untergruppe	. . . the cyclohexyl radical being substituted by two or more nitrogen atoms, e.g. destomycin, neamin [3]
C12P 19/50	4-Punkt Untergruppe	. . . having two saccharide radicals bound through only oxygen to adjacent ring carbon atoms of the cyclohexyl radical, e.g.ambutyrosin, ribostamycin [3]
C12P 19/52	5-Punkt Untergruppe	 containing three or more saccharide radicals, e.g. neomycin, lividomycin [3]
C12P 19/54	3-Punkt Untergruppe	. . . the cyclohexyl radical being bound directly to a nitrogen atom of two or more [Bild nicht vorhanden.] radicals, e.g. streptomycin [3]
C12P 19/56	2-Punkt Untergruppe	. . having an oxygen atom of the saccharide radical directly bound to a condensed ring system having three or more carbocyclic rings, e.g. daunomycin, adriamycin [3]
C12P 19/58	2-Punkt Untergruppe	. . having an oxygen atom of the saccharide radical directly bound through only acyclic carbon atoms to a non-saccharide heterocyclic ring, e.g. bleomycin, phleomycin [3]
C12P 19/60	2-Punkt Untergruppe	. . having an oxygen of the saccharide radical directly bound to a non-saccharide heterocyclic ring or a condensed ring system containing a non-saccharide heterocyclic ring, e.g. coumermycin, novobiocin [3]
C12P 19/62	3-Punkt Untergruppe	. . . the hetero ring having eight or more ring members and only oxygen as ring hetero atoms, e.g. erythromycin, spiramycin, nystatin [3]
C12P 19/64	1-Punkt Untergruppe	. Preparation of S-glycosides, e.g. lincomycin [3]
C12P 21/00	Hauptgruppe	Preparation of peptides or proteins (single-cell protein C12N 1/00) [3]
C12P 21/02	1-Punkt Untergruppe	. having a known sequence of two or more amino acids, e.g. glutathione [3]
C12P 21/04	2-Punkt Untergruppe	. . Cyclic or bridged peptides or polypeptides, e.g. bacitracin (cyclised by -S-S- bonds only C12P 21/02) [3]
C12P 21/06	1-Punkt Untergruppe	. produced by the hydrolysis of a peptide bond, e.g. hydrolysate products (preparing foodstuffs by protein hydrolysis A23J 3/00) [3]
C12P 21/08	1-Punkt Untergruppe	. Monoclonal antibodies [5]
C12P 23/00	Hauptgruppe	Preparation of compounds containing a cyclohexene ring having an unsaturated side chain containing at least ten carbon atoms bound by conjugated double bonds, e.g. carotenes (containing hetero-rings C12P 17/00) [3]
C12P 25/00	Hauptgruppe	Preparation of compounds containing alloxazine or isoalloxazine nucleus, e.g. riboflavin [3]
C12P 27/00	Hauptgruppe	Preparation of compounds containing a gibbane ring system, e.g. gibberellin [3]
C12P 29/00	Hauptgruppe	Preparation of compounds containing a naphthacene ring system, e.g. tetracycline (C12P 19/00 takes precedence) [3]
C12P 31/00	Hauptgruppe	Preparation of compounds containing a five-membered ring having two side-chains in ortho position to each other, and having at least one oxygen atom directly bound to the ring in ortho position to one of the side-chains, one side-chain containing, not directly bound to the ring, a carbon atom having three bonds to hetero atoms with at the most one bond to halogen, and the other side-chain having at least one oxygen atom bound in gamma-position to the ring, e.g. prostaglandins [3]
C12P 33/00	Hauptgruppe	Preparation of steroids [3]
C12P 33/02	1-Punkt Untergruppe	. Dehydrogenating; Dehydroxylating [3]
C12P 33/04	2-Punkt Untergruppe	. . Forming an aryl ring from A ring [3]
C12P 33/06	1-Punkt Untergruppe	. Hydroxylating [3]

Symbol	Typ	Titel
C12P 33/08	2-Punkt Untergruppe	. . at 11 position [3]
C12P 33/10	3-Punkt Untergruppe	. . . at 11alpha-position [3]
C12P 33/12	1-Punkt Untergruppe	. Acting on D ring [3]
C12P 33/14	2-Punkt Untergruppe	. . Hydroxylating at 16 position [3]
C12P 33/16	2-Punkt Untergruppe	. . Acting at 17 position [3]
C12P 33/18	3-Punkt Untergruppe	. . . Hydroxylating at 17 position [3]
C12P 33/20	1-Punkt Untergruppe	. containing heterocyclic rings [3]
C12P 35/00	Hauptgruppe	Preparation of compounds having a 5-thia-1-azabicyclo [4.2.0] octane ring system, e.g. cephalosporin [3]
C12P 35/02	1-Punkt Untergruppe	. by desacylation of the substituent in the 7 position [3]
C12P 35/04	1-Punkt Untergruppe	. by acylation of the substituent in the 7 position [3]
C12P 35/06	1-Punkt Untergruppe	. Cephalosporin C; Derivatives thereof [3]
C12P 35/08	1-Punkt Untergruppe	. disubstituted in the 7 position [3]
C12P 37/00	Hauptgruppe	Preparation of compounds having a 4-thia-1-azabicyclo [3.2.0] heptane ring system, e.g. penicillin [3]
C12P 37/02	1-Punkt Untergruppe	. in presence of phenylacetic acid or phenylacetamide or their derivatives [3]
C12P 37/04	1-Punkt Untergruppe	. by acylation of the substituent in the 6 position [3]
C12P 37/06	1-Punkt Untergruppe	. by desacylation of the substituent in the 6 position [3]
C12P 39/00	Hauptgruppe	Processes involving micro-organisms of different genera in the same process, simultaneously [3]
C12P 41/00	Hauptgruppe	Processes using enzymes or micro-organisms to separate optical isomers from a racemic mixture [4]