Organic Polymers & Monomers

A monomer is a molecule of any class of organic compounds that can bind chemically to the same molecules or other compounds to form a large molecule or polymer containing large number of repeating units of monomers. Polysaccharides, polypeptides, and polynucleotides are some of the biopolymers in living cells. In general monomers that contain either multiple bonds, or two or more functional groups, or rings containing three to seven atoms can undergo polymerization. The chemical properties of the polymers are derived from their monomer units, while the physical properties of polymers are different. Polymers, depending on their physical properties, are characterised as thermoplastics, thermo sets, elastomers and fibers.

Monomers

A monomer is a molecule of any class of organic compounds that can bind chemically to molecules of the same or other compounds to form a polymer containing large number of repeating units of monomers. In general monomers that contain either multiple bonds, or two or more functional groups, or a ring containing three to seven atoms undergo polymerization. Oligomers contain small number of monomers.

Well-known naturally occurring monomers are amino acids, nucleotides, monosaccharides and fatty acids. Amino acids are monomers that are the building blocks of peptides and proteins. Nucleotides are monomers that bind to form nucleic acids, the building blocks of DNA and RNA, through dehydration. Monosaccharides are the monomers of polysaccharides. Fatty acids are the monomers of Lipids, the biological macromolecule used to store energy and structure to cell membrane.

One of the most widely used plastics, polystyrene is a synthetic aromatic polymer made up of repeating units of styrene monomer. Caprolactam is a monomer that forms nylon-6 which is used in textile and plastic industries. Isoprene monomers polymerise to yield natural rubber. Acrylic monomers polymerize to form glass-like polymers, which are used in huge number of consumer products. The popular, PVC (polyvinyl chloride) is made up of vinyl chloride.

L15459	1,2-Propanediol monomethyl ether acetate, 99%, stab. with 50ppm BHT
44455	4-Methylbenzhydrylamine hydrochloride, polymer-supported, 1% cross-linked, 100-200 mesh, 0.5-1.0 mmol/g on PS-DVB
H52287	9-BBN monomer, 97%, 0.5M in THF
44459	Benzhydrylamine hydrochloride, polymer-supported, 1% cross-linked, 100-200 mesh, 0.5-1.5 mmol/g on PS-DVB
A15809	Brij® L23
L10682	Diethylene glycol diacrylate, tech. 75%, stab.
L12501	Diethylene glycol divinyl ether, 98%, stab. 0.1% potassium hydroxide
L13446	Diethylene glycol monoethyl ether acetate, 99%
A16063	Diethylene glycol monomethyl ether, 98%
A16068	Diethylene glycol mono-n-butyl ether, 99%
A18716	Dipropylene glycol, mixture of isomers, 99%
42288	Ethylene glycol-d₆, 98% (Isotopic)
A16086	Ethylene glycol-O,O'-bis(2-aminoethyl)-N,N,N',N'-tetraacetic acid, 97%
L02161	Hexaethylene glycol, 96%

Organic Polymers

Organic polymers are macromolecules composed of many repeating monomer units. Both synthetic and natural polymers play a crucial role in everyday life. Polysaccharides, polypeptides, and polynucleotides are the main types of biopolymers in living cells. These polymers are synthesized by enzyme-mediated processes in cells. In general, synthetic polymers are derived from monomers that contain either a multiple bond, or two or more functional groups, or a three- to seven- membered ring. The chemical properties of the polymers are derived from their monomer units, while the physical properties of polymers are different. Polymers, depending on their physical properties, are characterised as thermoplastics, thermo sets, elastomers and fibers.

Polymers have wide range of applications. In the biomedical filed, biodegradable polymers find immense use in drug delivery and tissue engineering. Neoprene is used in shoe soles, and wet suits. Polymers are extensively used in textiles and fabrics; teflon in non-stick pans and polyvinyl chloride in pipes. The popular PET bottles are made of a synthetic polymer, polyethylene terephthalate. Polystyrene resins are used in the production of home electronics and appliances. Nylon-6 is extensively used in the textile and plastic industries. Poly(methyl methacrylate), a glass-like polymer, is used in a large number of consumer products.

46403	3,3'-Diallylbisphenol A diacetate, epoxy curative, EC-392
46534	3olyethylene glycol dimethacrylate, M.W. 1,000
L13625	4-Sulfonic-calix[6]arene hydrate
L14473	4-tert-Butylcalix[6]arene, 96%
46441	Bisphenol A acetate propionate, epoxy curative, EC-326
46724	Bisphenol F acetate propionate, epoxy curative, EC-298
L07941	Bromopolystyrene, ca 1.0-2.0 mmol/g
44151	Ethylene glycol dimethacrylate, 98%, stab. with 100ppm 4-methoxyphenol
B22095	Ficoll® 400
L17548	Fomblin YR-1800
A16198	Heparin sodium salt, from porcine intestinal mucosa, IU>=100/mg
46754	High temperature urethane, U-835
46867	Imide-extended bismaleimide, BMI-1500
46460	Imide-extended bismaleimide, BMI-5000

46532	Imide-extended bismaleimide, gel, BMI-3000
46681	Imide-extended bismaleimide, powder, BMI-3000
46643	Methoxypolyethylene glycol amine, M.W. 1,000
46433	Methoxypolyethylene glycol amine, M.W. 10,000
47376	Methoxypolyethylene glycol amine, M.W. 20,000
46924	Methoxypolyethylene glycol amine, M.W. 5,000
L19464	Methyl isothiocyanate, polymer-supported, 1.5-1.9 mmol/g on polystyrene
H27530	Oxynitrox® S100, free radical, 99+%, average M.W. ca 2,250
A11313	Paraformaldehyde, 96%
L14649	Petroleum ether 40/60
L13734	Petroleum ether 60/80
43880	Poly(1,1-dimethylsilazane), telomer
42397	Poly(2-ethyl-2-oxazoline), M.W. 200,000
42396	Poly(2-ethyl-2-oxazoline), M.W. 50,000
42398	Poly(2-ethyl-2-oxazoline), M.W. 500,000
43825	Poly(2-ethylaniline), emeraldine base
43841	Poly(2-methoxyaniline), emeraldine base
43805	Poly(2-methylaniline), emeraldine base

	43806	Poly(2-methylaniline), emeraldine salt from p-toluenesulfonic acid
	44788	Poly(3-butylthiophene-2,5-diyl), regiorandom
	44787	Poly(3-butylthiophene-2,5-diyl), regioregular
	45906	Poly(3-hexylthiophene-2,5-diyl), regiorandom
	44745	Poly(3-hexylthiophene-2,5-diyl), regioregular, low metals
	44778	Poly(3-octylthiophene-2,5-diyl), regiorandom, low metals
	44777	Poly(3-octylthiophene-2,5-diyl), regioregular, low metals
	44669	Poly(acrylic acid), 25 wt% soln. in water
	43092	Poly(allylamine hydrochloride)
	42581	Polyaniline, emeraldine base
	43683	Polyaniline, emeraldine salt from p-toluenesulfonic acid
	43769	Polydimethylsiloxane, hydroxy terminated, M.W. 4200
	45088	Polydimethylsiloxane (silicone) emulsion
	42504	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 117,000
	42498	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 1250
	44644	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 139,000
	42490	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 14,000
	42492	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 17,000

42499	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 2000
42496	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 237
42503	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 28,000
42500	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 4000
43669	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 410
42501	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 6000
44764	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 63,000
42497	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 770
42502	Polydimethylsiloxane, trimethylsiloxy terminated, M.W. 9000
46954	Polyester acrylate/methacrylate, PEAM-1044
46351	Polyester acrylate/methacrylate, PEAM-1769
46596	Polyester acrylate/methacrylate, PEAM-645
46408	Polyester methacrylate, PEM-665
44146	Polyethylene, chlorinated
B22134	Polyethylene glycol 1,000
B21955	Polyethylene glycol 10,000
42635	Polyethylene glycol 12,000

A16241	Polyethylene glycol 1,500
B21918	Polyethylene glycol 200
B22181	Polyethylene glycol 2,000
A17925	Polyethylene glycol 20,000
B21992	Polyethylene glycol 400
A16151	Polyethylene glycol 4,000
H32788	Polyethylene glycol 4-tert-octylphenyl ether
B21798	Polyethylene glycol 600
A17541	Polyethylene glycol 6,000
43443	Polyethylene glycol 8,000
46493	Polyethylene glycol diacrylate, M.W. 1,000
46497	Polyethylene glycol diacrylate, M.W. 3,400
46801	Polyethylene glycol diacrylate, M.W. 8,000
46728	Polyethylene glycol dimethacrylate, M.W. 3,400
46985	Polyethylene glycol dimethacrylate, M.W. 8,000
46750	Polyethylene glycol dimethanesulfonate, M.W. 1,000
46559	Polyethylene glycol dimethanesulfonate, M.W. 8,000
46959	Polyethylene glycol di-p-toluenesulfonate, M.W. 3,400

46787	Polyethylene glycol di-p-toluenesulfonate, M.W. 8,000
46537	Polyethylene glycol methyl ether acrylate, M.W. 1,000
46388	Polyethylene glycol methyl ether acrylate, M.W. 5,000
46991	Polyethylene glycol methyl ether methacrylate, M.W. 1,000, stab. with <300ppm 4-methoxyphenol
46513	Polyethylene glycol methyl ether methacrylate, M.W. 13,000
46838	Polyethylene glycol methyl ether methacrylate, M.W. 5,000
41563	Polyethylene glycol monomethylether, 1,900
41560	Polyethylene glycol monomethylether, 350
41561	Polyethylene glycol monomethylether, 550
41562	Polyethylene glycol monomethylether, 750
46437	Polyethylene glycol monomethyl ether methanesulfonate, M.W. 1,000
46693	Polyethylene glycol monomethyl ether methanesulfonate, M.W. 13,000
46454	Polyethylene glycol monomethyl ether methanesulfonate, M.W. 5,000
46540	Polyethylene glycol monomethyl ether p-toluenesulfonate, M.W. 1,000
46824	Polyethylene glycol monomethyl ether p-toluenesulfonate, M.W. 5,000

40331	Polyethyleneimine, branched, M.W. 10,000, 99%
45594	Polyethyleneimine, branched, M.W. 1,200, 99%
40528	Polyethyleneimine, branched, M.W. 2,000
45024	Polyethyleneimine, branched, M.W. 50,000 - 100,000, 30% w/w aq. soln.
40527	Polyethyleneimine, branched, M.W. 600, 99%
40529	Polyethyleneimine, branched, M.W. 70,000, 30% w/v aq. soln.
47336	Polyethyleneimine hydrochloride, linear, M.W. 40,000
43896	Polyethyleneimine, linear, M.W. 25,000
43302	Polyethyleneimine on silica beads, anion exchange resin, 20-40 mesh
43303	Polyethyleneimine on silica beads, anion exchange resin, 40-200 mesh
43304	Polyethyleneimine on silica beads, anion exchange resin, benzylated, 20-40 mesh
43949	Polyethylene, low density, 1000 micron
42607	Polyethylene, low density, ≤400 micron
42236	Polyethylene oxide, M.W. 100,000
43678	Polyethylene oxide, M.W. 1,000,000
42237	Polyethylene oxide, M.W. 300,000
A15536	Polyethylene oxide, M.W. >5,000,000
A10239	Polyethylene powder, low density, 500 micron

45220	Polyethylene rod, High Density, 12.7mm (0.5in) dia
45180	Polyethylene rod, High Density, 19mm (0.75in) dia
45179	Polyethylene rod, Low Density, 12.7mm (0.5in) dia
45201	Polyethylene rod, Low Density, 16mm (0.63in) dia
45219	Polyethylene rod, Low Density, 19mm (0.75in) dia
45155	Polyethylene sheet, High Density, 1.6mm (0.063in) thick
45217	Polyethylene sheet, High Density, 3.18mm (0.125in) thick
45198	Polyethylene sheet, High Density, 6.35mm (0.25in) thick
45216	Polyethylene sheet, Low Density, 12.7mm (0.5in) thick
45154	Polyethylene sheet, Low Density, 1.6mm (0.063in) thick
45175	Polyethylene sheet, Low Density, 3.18mm (0.125in) thick
45197	Polyethylene sheet, Low Density, 6.35mm (0.25in) thick
43951	Polyethylene, UHMW
L04206	Polygalacturonic acid, M.W. 25,000-50,000
41896	Polyimide film, 0.008mm thick
41897	Polyimide film, 0.013mm thick
41898	Polyimide film, 0.025mm thick x 20mm width
43656	Polyimide resin

L19272	Poly-L-leucine-1,3-diaminopropane
43230	Poly(methyl-3,3,3-trifluoropropylsiloxane), M.W. 14,000
43228	Poly(methyl-3,3,3-trifluoropropylsiloxane), M.W. 2,400
43229	Poly(methyl-3,3,3-trifluoropropylsiloxane), M.W. 4,600
L14561	Poly(methylhydrosiloxane)
43982	Poly(methyl methacrylate)
43969	Poly(methyl methacrylate), 600 micron
46833	Polyoxyethylene bis(amine), M.W. 1,000
46973	Polyoxyethylene bis(amine), M.W. 3,400
46903	Polyoxyethylene bis(amine), M.W. 8,000
44569	Polyphenylmethylsiloxane, MW 2500-2700
40812	Polypropylene glycol 1,000
47361	Polypropylene glycol 1,200
L14699	Polypropylene glycol 2000

41941	Polystyrene standard, M.W. 650,000, Mw/Mn 1.06
41932	Polystyrene standard, M.W. 65,000, Mw/Mn 1.06
41943	Polystyrene standard, M.W. 900,000, Mw/Mn 1.10
42653	Poly(styrene sulfonic acid), M.W. 75,000, 30% w/v aq. soln.
45050	Poly(styrene sulfonic acid) sodium salt, M.W. 500,000
41688	Poly(styrene sulfonic acid) sodium salt, M.W. 70,000
45851	Poly(styrene sulfonic acid) sodium salt, M.W. 75,000
44502	Polystyrene Test Film
A12613	Polytetrafluoroethylene
44184	Polytetrafluoroethylene, 6-10 micron
A12732	Polyvinyl acetate, M.W. ca 50,000
41238	Polyvinyl alcohol, 86-89% hydrolyzed, low molecular weight
41239	Polyvinyl alcohol, 86-89% hydrolyzed, medium molecular weight
41240	Polyvinyl alcohol, 87-89% hydrolyzed, high molecular weight
41243	Polyvinyl alcohol, 98-99% hydrolyzed, high molecular weight
41241	Polyvinyl alcohol, 98-99% hydrolyzed, low molecular weight
41242	Polyvinyl alcohol, 98-99% hydrolyzed, medium molecular weight
47300	Polyvinyl alcohol gel

43067	Poly(vinylbenzyl chloride)
44190	Poly(vinyl formal)
44080	Poly(vinylidene fluoride)
A14315	Polyvinylpyrrolidone, average M.W. 58,000
41631	Polyvinylpyrrolidone, cross linked
45782	Polyvinylpyrrolidone-iodine complex
43728	Polyvinylpyrrolidone, M.W. 1,300,000
41626	Polyvinylpyrrolidone, M.W. 8,000
L19595	Quadragel-OH, ca 1.5 mmol/g, metal scavenger
A18346	Sodium taurocholate hydrate, 96%
46960	Tetrakisepoxy cyclosiloxane
A16046	Triton® X-100

Polymer Supported Materials

Polymers are macromolecules, composed of repeating units of monomer units. Polymers have emerged as solid supports for reagents, scavengers, and catalysts to aid in the purification of solution phase libraries. Polymer-supported reagents and catalysts are used because of their easy recovery after completion of the reaction. A polymer-supported Pd complex catalyst is a solid-phase catalyst, which consists of the amphiphilic copolymer ligands, chloride and palladium. It takes up substrates and reagents of both a hydrophilic and hydrophobic nature in the vicinity of the palladium surface to smoothly promote the reaction. These polymer-supported palladium catalysts are insoluble both in water and organic solvent; hence they can be recovered easily and reused many times.

Polyimide produced by the reaction of pyrometallic dianhydride and 3,5-diamino- 1,2,4-triazole is loaded with Mo(IV) & used as a catalyst in the epoxidation of cyclohexene with tert-butylhydroperoxide. Poly(4-vinylpyridine)-supported sodium ruthenate is used as recoverable catalyst in the oxidation of alcohols. Several primary and secondary alcohols are oxidised using this catalyst to corresponding aldehydes or ketones with greater than 90% yield. Polymer scavengers are functionalized polymers that are designed to react with and bind excess reagents and byproducts, facilitating their removal by simple filtration. Trace metals and impurities can be removed from pharmaceutical products with these scavengers with no compromise on product yield. The main advantage of polymer-supported reactions is that, at the end of the reaction, the polymer-supported species are cleaned easily.

L19468	(±)-1-Glycerol, polymer-supported, 0.8-1.1 mmol/g on Merrifield resin
L19602	2-Chlorotrityl alcohol on polystyrene, 1% cross-linked, 100-200 mesh, 0.6-1.5 mmol/g
44407	2-Chlorotrityl chloride on polystyrene, 1% cross-linked, 100-200 mesh, 1.0-1.4 mmol/g
L19754	4-Benzyloxy-2,6-dimethoxybenzaldehyde, polymer-supported, 1.0-1.5 mmol/g on Merrifield resin
L19469	4'-Benzyloxyacetophenone, polymer-supported, 0.8-1.1 mmol/g on Wang resin
L19472	4-Benzyloxybenzophenone, polymer-supported, 0.8-1.1 mmol/g on Wang resin
L19375	4-(Benzylthio)phenol, polymer-supported, 0.8-1.0 mmol/g
L19376	4-Nitrophenylketoxime on polystrene, 2% cross-linked, 200-400 mesh, 0.8-1.0 mmol/g
L19753	(4-Nitrophenylketoximino)carbonyl chloride, polymer-supported, 0.8-1.0 mmol/g on polystyrene
L19475	Benzaldehyde on polystyrene, 0.8-1.5 mmol/g
L19465	Benzenesulfonyl chloride, polymer-supported, 1.8-2.2 mmol/g on polystyrene
44454	Benzhydryl alcohol, polymer supported, 1% cross-linked, 100-200 mesh, 0.3-2.0 mmol/g on poly(styrene-divinylbenzene)
L19473	Benzoic acid on polystyrene, 1.6-2.1 mmol/g
L19592	Benzyl alcohol on polystyrene, 3.5 mmol/g

	L19471	Benzylamine on polystyrene, 2.0-3.0 mmol/g
	44466	Benzyl mercaptan, polymer supported, 1% cross-linked, 100-200 mesh, 2.0-4.0 mmol/g on poly(styrene-divinylbenzene)
	L19600	BT-Core resin, 1.4-2.2 mmol/g
	L19477	Diphenylmethylphosphine, polymer-supported, 0.9-1.4 mmol/g on polystyrene
	L19597	Epoxide functional resin, ca 2 mmol/g
	A11591	Ethylene glycol, 99%
	L19464	Methyl isothiocyanate, polymer-supported, 1.5-1.9 mmol/g on polystyrene
	L19463	N-Cyclohexylcarbodiimide, 0.8-1.0 mmol/g on Merrifield resin
	L19594	Phenol on polystyrene, ca 3.5 mmol/g
	L19598	Phenyl acetate on polystyrene, ca 4 mmol/g
	L19599	Phenyl acetoacetate on polystyrene, ca 3 mmol/g
	A12572	Polyamide layer sheets for chromatography, 15cm x 15cm
	A12728	Silicone oil, for oil baths, usable range from -40 to +200°C
	45896	Silicone oil, high temperature, usable temperature range: 25 to 250°C (open system) and 25 to 315°C (closed system)
	L19377	S-Thiouronium chloride, polymer-supported, 0.8-1.0 mmol/g on Merrifield resin
	L19470	Thiomorpholine, polymer-supported, 0.8-1.1mmol/g on Merrifield resin
	L19474	Triphenylphosphine oxide, polymer-supported, 1.2-1.8 mmol/g on polystyrene
	L19478	Triphenylphosphine, polymer-supported, 1.4-2.0 mmol/g on polystyrene

	L19373	Tris(2-aminoethyl)amine, polymer-supported
	44397	Trityl chloride, polymer-supported, 1% cross-linked, 100-200 mesh, 0.5-2.5 mmol/g on poly(styrene-divinylbenzene)
	L16698	Ultramark® 1621, Mass Spec Std
	L16695	Ultramark® 1960F
	L16696	Ultramark® 2500F
	L16697	Ultramark® 3200F