

Column Selection (Application)

Pharmaceuticals, Cosmetics

		Separation Mode	Page
Pharmaceuticals Metabolites Additives	Hydrophobic substances	RPC	8, 10, 12, 16, 17
	Hydrophilic substances	HILIC	20, 22
		IEC+RPC	12
		LEX+SEC	24, 25
	Substances in bio-fluid (serum-plasma-urine)	RPC	8
		SEC+RPC	42, 44, 72
Polymer	SEC	38, 44, 50, 56	
Moisturizers	Polyalcohols	RPC	12
		LEX+SEC	24
		LEX+HILIC	24
		SEC	38, 44
	Protein hydrolysates	RPC	10, 12
		SEC	36
Mucopolysaccharides	SEC	38	
Emulsifiers	Surfactants	SEC+RPC	44
		SEC	46, 52
Preservatives	Paraben Dehydroacetic acid	RPC	10, 12, 16, 17
Optical active materials		CS	68

Foods

		Separation Mode	Page
Nutritional ingredients	Monosaccharides Disaccharides Sugar alcohols	HILIC	20, 22
		LEX+SEC	24
		LEX+HILIC	24
	Oligosaccharides	HILIC	20, 22
		LEX+HILIC	24
		SEC	24, 38, 42
	Low molecular water-soluble dietary fiber	SEC	42
	Polysaccharides	SEC	24, 38
	Organic acids	RPC	8, 12
		IEC+RPC	28
		IC	30
		RPC	8, 10, 12
	Water-soluble vitamins	IEC+RPC	12
		HILIC	20, 22
	Fat-soluble vitamins	RPC	10
		NPC	17
		SEC	46, 52
	Fatty acids	RPC	12, 16, 17
SEC		44, 46, 48, 52	
Nucleic acids (umami)	IEC+SEC	42	
Amino acids	IEC+IEC+RPC	12	
	IC	32	
	IEC	66	
Food safety	Food additives	RPC	10, 12, 68
		HILIC	20, 22
	Pesticides	RPC	12
		IEC+RPC	12
		HILIC	20
		IC	30
	Mycotoxin	RPC	16
	Pretreatment of residual pesticides	SEC GPC (Clean-up)	70

Separation Mode (Page 4 and Page 5)

RPC : Reversed Phase Chromatography
 HILIC : Hydrophilic Interaction Chromatography
 NPC : Normal Phase Chromatography
 LEX : Ligand Exchange Chromatography
 IEX : Ion Exclusion Chromatography
 IC : Ion Chromatography
 SEC : Size Exclusion Chromatography
 IEC : Ion Exchange Chromatography
 HIC : Hydrophobic Interaction Chromatography
 AFC : Affinity Chromatography
 CS : Chiral Separation Chromatography

New Materials

		Separation Mode	Page
Synthetic polymers	Organic solvent soluble	SEC	44, 46, 48, 52, 56
	Polar organic solvent soluble		38, 44, 50, 52, 56
	High temperature/ Ultra high temperature		58
	Water-soluble		36, 38, 42, 44
Additives Oligomers		RPC	10, 12, 16, 17
	Organic solvent soluble	SEC	44, 46, 48, 52
	Polar organic solvent soluble		38, 44, 50, 52
	Water-soluble		36, 38, 42, 44

Biotechnology

		Separation Mode	Page	
Genomics	Nucleobases Nucleotides Nucleosides	RPC	12	
		IEC+SEC	12, 42	
		IEC	64	
	Oligo nucleic acids	RPC	12	
		IEC+SEC	42	
		IEC	64	
	DNA/RNA	SEC	38, 44	
	Proteomics	Amino acids	RPC	10
			IEC+IEX+RPC	12
			IEC	66
IEC+SEC			42	
Peptides Proteins		RPC	10, 12	
		SEC	36, 38, 42, 44	
		IEC	64, 66	
		HIC	68	
Glycomics	Glycoproteins	RPC	10, 12	
		SEC	36, 38, 42, 44	
		IEC	64, 66	
		HIC	68	
		AFC	68	
	Sugar chains	HILIC	20, 22	
		AFC	68	
	Monosaccharides	HILIC	20, 22	
		LEX+SEC	24	
		LEX+HILIC	24	
	Sialic acids Uronic acids Aldonic acids	IEX+RPC	28	
	Hormones	Amines	RPC	8, 10, 12
IEC			66	
Steroids		RPC	10	
		HILIC	20, 22	
		SEC	38, 44	
Lipids	Phospholipids	NPC	17	
		SEC	44, 46, 52	
	Lipoproteins	SEC	38	
		AFC	68	

Environment

		Separation Mode	Page	
Water quality	Anions	IC	30	
	Oxyhalides	IC	30	
		IEC+HILIC	20	
	Cyanide Cyanogen chloride	IEX	28	
	Cations	IC	32	
	Surfactants	RPC	10, 16	
		SEC+RPC	44	
	Perchloric acids	IC	30	
		IEC+HILIC	20	
		RPC	12, 16, 17	
	Pesticides	IEC+RPC	12	
		HILIC	20	
		IC	30	
	Soil	Anions	IC	30
		Heavy metals	IC	32
Humic substances		SEC	38	
Organic arsenic		IEX+RPC	12	
Pesticides		RPC	12, 16, 17	
		IEC+RPC	12	
		HILIC	20	
		IC	30	
Environmental hormones	Pretreatment of Phthalates PCBs Benzo [a] pyrene	SEC GPC (Clean-up)	70	
	Monosaccharides Oligosaccharides	HILIC	20, 22	
		LEX+SEC	24	
	Bioethanols	Oligosaccharides Alcohols Furfural	LEX+SEC	24
Saccharides Organic acids Alcohols Furfural		IEX+RPC+SEC	28	
Hemicelluloses Celluloses		SEC	50, 56	
Biodiesels	Cations	IC	32	
	Fatty acid glycerides	SEC	44	
	Fatty acid methyl esters	RPC	12	
	Organic acids	IC	30	