



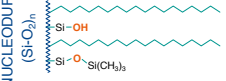
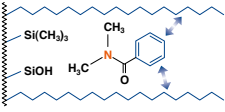




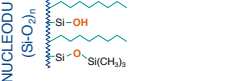
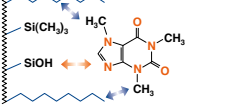


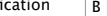
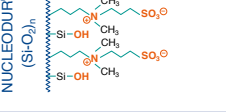
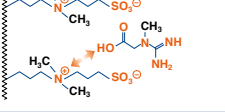


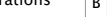
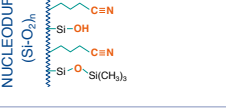
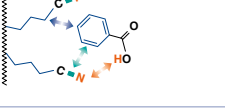
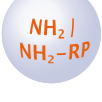


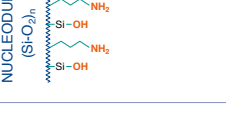
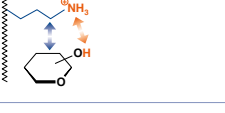

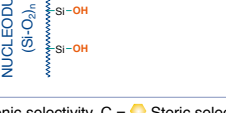
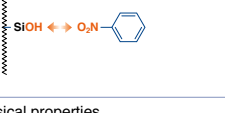


Phase	Specification	Characteristics*	Stability	Structure	Application	Similar phases**	Interactions · Retention mechanism
C₁₈ Gravity	Octadecyl phase, high density coating, multi-encapping, 18% C · USP L1	A B C	pH stability 1–11, suitable for LC/MS		In general compounds with ionizable functional groups such as basic pharmaceuticals and pesticides	NUCLEOSIL® C₁₈ HD XTerra® RP18 / MS C ₁₈ ; Luna® C18(2), Gemini®, Synergi® Max RP; Zorbax® Extend-C18; Inertsil® ODS III; Purospher® STAR RP-18; Hypersil™ BDS	Hydrophobic (van der Waals)
C₈ Gravity	Octyl phase, high density coating, multi-encapping, 11% C · USP L7	A B C	pH stability 1–11, suitable for LC/MS		Like C ₁₈ Gravity, however generally shorter retention times for nonpolar compounds	NUCLEOSIL® C₈ HD XTerra® RP8 / MS C ₈ ; Luna® C8; Zorbax® Eclipse XDB-C8	Hydrophobic (van der Waals)
C₁₈ Isis	Octadecyl phase with specially crosslinked surface modification, endcapping, 20% C · USP L1	A B C	pH stability 1–10, suitable for LC/MS		High steric selectivity, thus suited for separation of positional and structural isomers, planar/nonplanar molecules	NUCLEOSIL® C₁₈ AB Inertsil® ODS-P; Pro C18 RS; Zorbax® SB	Steric and hydrophobic
C₁₈ Pyramid	C ₁₈ modification with polar endcapping, 14% C · USP L1	A B C	Stable against 100% aqueous eluents, pH stability 1–9, suitable for LC/MS		Basic pharmaceutical ingredients, very polar compounds, organic acids	Aqua, Synergi® Hydro-RP; AQ; Atlantis® dC ₁₈	Hydrophobic and polar (H bonds)
PolarTec	Octadecyl phase with embedded polar group, endcapping, 15.5% C · USP L1 and L60	A B C	Stable against 100% aqueous eluents, pH stability 1–9, suitable for LC/MS		Basic pharmaceuticals, organic acids, pesticides, amino acids, water-soluble vitamins	NUCLEOSIL® C₁₈ Nautilus ProntoSIL® C18; Zorbax® Bonus-RP, Polaris® Amide-C18; Ascentis® RP Amide; SymmetryShield™ RP18; SUPELCOSIL™ LC-ABZ+; HyPURITY™ ADVANCE	Hydrophobic and polar (H bonds)
PPF	Pentafluorophenyl-propyl modification with multi-encapping, 8% C · USP L43	A B C	pH stability 1–9, suitable for LC/MS		Aromatic and unsaturated compounds, halogen compounds, phenols, isomers, polar pharmaceuticals, antibiotics	ACQUITY® CSH Fluoro-Phenyl; Hypersil™ GOLD PPF; Luna® PPF(2); Discovery® HS F5; Allure® PPF Propyl, Ultra II PPF Propyl	Polar (H bonds), dipole-dipole , π-π and hydrophobic
Sphinx RP	Bifunctional RP phase, propylphenyl and C ₁₈ ligands, endcapping, 15% C · USP L1 and L11	A B C	pH stability 1–10, suitable for LC/MS		Compounds with aromatic and multiple bond systems	No similar phases	π-π and hydrophobic
C₁₈ HTec	Octadecyl phase with high capacity, high density coating, multi-encapping, 18% C · USP L1	A B C	pH stability 1–11, suitable for LC/MS		Robust and well base deactivated C ₁₈ phase; all separation tasks with preparative potential	XTerra® RP18 / MS C ₁₈ / SunFire™ C ₁₈ ; Luna® C18(2), Gemini®, Synergi® Max RP; Zorbax® Extend-C18; Inertsil® ODS III; Purospher® STAR RP-18; Hypersil™ BDS	Hydrophobic (van der Waals)

* A = Hydrophobic selectivity, B = Polar / ionic selectivity, C = Steric selectivity

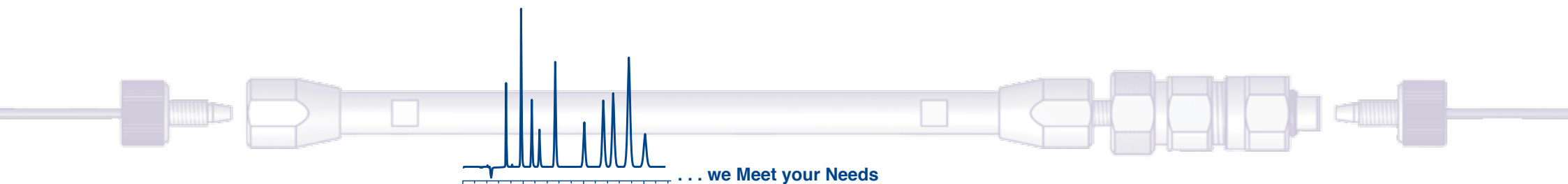
** Phases which provide a similar selectivity based on chemical and physical properties

Phase	Specification	Characteristics*	Stability	Structure	Application	Similar phases**	Interactions · Retention mechanism
 C₁₈ ec	Octadecyl phase, medium density coating endcapping 17.5% C · USP L1	A  B  C 	pH stability 1-9		Robust C ₁₈ phase for routine analyses	NUCLEOSIL® C₁₈ Spherisorb® ODS II, Symmetry® C ₁₈ ; Hypersil™ ODS; Inertsil® ODS II; Kromasil C ₁₈ ; LiChrospher® RP-18	Hydrophobic (van der Waals) Some residual silanol interactions 
 C₈ ec	Octyl phase, medium density coating endcapping 10.5% C · USP L7	A  B  C 	pH stability 1-9		Robust C ₈ phase for routine analyses	NUCLEOSIL® C₈ ec / C₈ Spherisorb® C ₈ , Symmetry® C ₈ ; Hypersil™ MOS; Kromasil C ₈ ; LiChrospher® RP-8	Hydrophobic (van der Waals) Some residual silanol interactions 
 HILIC	Zwitterionic ammonium sulfonic acid modification 7% C	A  B  C -	pH stability 2-8.5, suitable for LC/MS		Hydrophilic compounds such as organic polar acids and bases, polar natural compounds	SeQuant™ ZIC®-HILIC; Obelisc™	Ionic / hydrophilic and electrostatic 
 CN / CN-RP	Cyano (nitrile) phase for NP and RP separations 7% C · USP L10	A  B  C -	pH stability 1-8, stable towards highly aqueous mobile phases		Polar organic compounds (basic drugs), molecules containing π electron systems	NUCLEOSIL® CN / CN-RP	π-π and polar (H bonds), hydrophobic 
 NH₂ / NH₂-RP	Amino phase for NP and RP separations 2.5% C · USP L8	A  B  C -	pH stability 2-8, stable towards highly aqueous mobile phases		Sugars, sugar alcohols and other hydroxy compounds, DNA bases, polar compounds in general	NUCLEOSIL® NH₂ / NH₂-RP	Polar / ionic and hydrophobic 
 SiOH	Unmodified high purity silica USP L3	A - B n.a. C -	pH stability 2-8		Polar compounds in general	Unmodified NUCLEOSIL®	Polar / ionic 

* A =  Hydrophobic selectivity, B =  Polar / ionic selectivity, C =  Steric selectivity

** Phases which provide a similar selectivity based on chemical and physical properties

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