

Standard Method Development Procedure

The solid phase methodology will vary depending on the sorbent (*normal, reversed, ion exchange*). Here, we propose generic methods for each phase based on sample and sorbent properties. However, procedures can be slightly different from one sample to another.

Standard Method Development Procedure			
Procedure Step	Reversed-Phase	Ion Exchange Phase	Normal-Phase
Analyte properties	Non-polar, uncharged or neutralized, hydrophobic	Ionized or charged	Slightly to moderately polar, uncharged
Matrix sample properties	Solvents and aqueous (<i>buffer</i>)	Aqueous (<i>buffer</i>) and pH-adjusted solutions	Organic solvents
Conditioning step	Water-miscible organic solvents	Water-miscible organic solvents or aqueous buffered solution	Sample solvent or methanol
Sample loading	Dissolve analyte in highly polar solvents	Dissolve analyte in highly polar solvents	Dissolve analyte in low polar solvents
Washing	Aqueous or buffered solution and polar solvents	Aqueous solutions containing salts	Non-polar solvents
Elution	Polar or non-polar organic solvents	Polar solvents, may contain acids or bases	Mixture of non-polar (5 - 50%) an polar solvents

Suggested Elution Solvents				
Reversed-Phase	Polarity	Ion Exchange Phase	Polarity	Normal Phase
THF Acetone Ethyl acetate Acetonitrile Methanol	Low ↓ High	For complete ionization, sample should be adjusted 2 pH units above or below the analyte pKa. pH can be used to neutralize analyte or sorbent. Use 2% strong acid or base in acetonitrile or methanol.	Low ↓ High	Hexane CH ₂ Cl ₂ THF Acetone Acetonitrile



Product Selection Guide by Sample Properties

