

Solid Phase Extraction(SPE) Small Molecule Method Development

Establish Your Target Analyte Characteristics

Analyte pK_a	0	1	2	3	4	5	6	Neutral	8	9	10	11	12	13	14	
Strata™ -X	Neutral Analyte or Analyte with $\log P > -0.5$ Modified N-Vinylpyrrolidone functional group results in multiple mechanisms of retention for the widest range of selectivity. Strong retention of neutral compounds allows for aggressive washes for increased sensitivity and method reproducibility															
Strata™ -X-AW	Acidic Analyte $pK_a \leq 5$ Di-amino functional group is highly selective for charged acidic compounds allows for 100 % organic washes, increasing sensitivity and method reproducibility.															
Strata™ -X-C	Basic Analyte $pK_a \leq 10.5$ Sulfonic acid functional group is highly selective for weakly basic compounds allows for 100 % organic washes, increasing sensitivity and method reproducibility.															
Strata™ -X-CW	Basic Analyte $pK_a \geq 8$ Carboxylic acid functional group allows for reversible binding of strong bases and quaternary amines. High selectivity for all basic compounds allows for 100 % organic washes, increasing sensitivity and method reproducibility.															

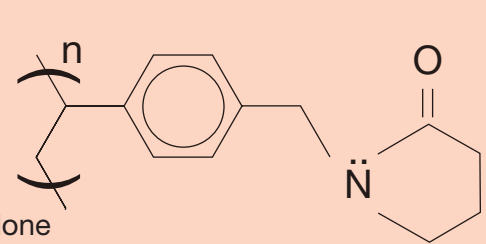
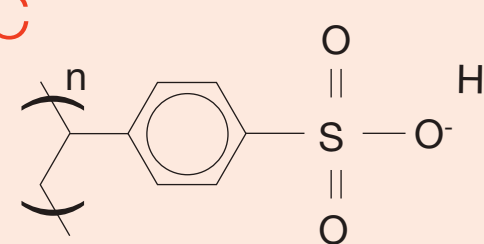
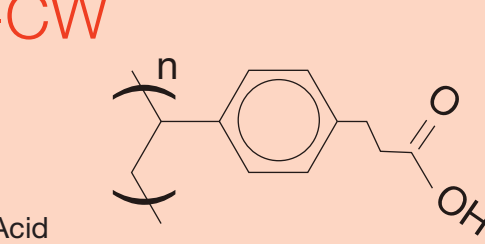
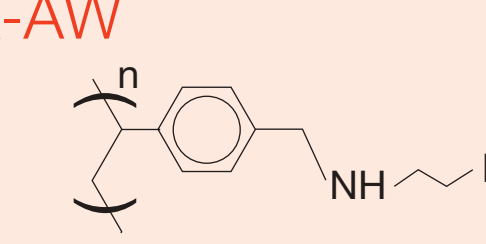
Determine Correct Sorbent Mass for Your Sample Matrix and Volume

	Sorbent Mass (in tube)	Plasma/Serum	Urine	Filtered Tissue Homogenates	Water (particulate-free)	Water (particulate-laden)
strata™ X Strata™ -X, X-C, X-CW, X-AW, XL, XL-C	10 mg	100 μ L	250 μ L	10 mg	2 mL	1 mL
	30 mg	250 μ L	1 mL	50 mg	10 mL	5 mL
	60 mg	500 μ L	2 mL	100 mg	25 mL	10 mL
	100 mg	1 mL	4 mL	150 mg	50 mL	25 mL
	200 mg	2 mL	8 mL	300 mg	100 mL	50 mL
	500 mg	5 mL	20 mL	500 mg	500 mL-1L	100 mL

Determine Correct Wash and Elution Solvent Volumes for Your Method

strata™ X Sorbent Mass	10 mg	30 mg	60 mg	100 mg	150 mg	200 mg	500 mg	1 g	2 g	5 g	10 g
Practical Minimum Wash and Elution Volume 4 bed volumes	100 μ L	300 μ L	600 μ L	1 mL	1.5 mL	2 mL	5 mL	10 mL	20 mL	50 mL	100 mL
Recommended Wash and Elution Volume 8 bed volumes	200 μ L	600 μ L	1.2 mL	2 mL	3 mL	4 mL	10 mL	20 mL	40 mL	100 mL	200 mL

General Method for Your strata™ X Sorbent

Strata-X	Strata-X-C	Strata-X-CW	Strata-X-AW
 <p>N-Vinylpyrrolidone</p>	 <p>Sulfonic Acid</p>	 <p>Carboxylic Acid</p>	 <p>Di-amino</p>
<p>General Method for Neutral Compounds Based on 30 mg sorbent mass</p> <ul style="list-style-type: none"> Condition: 1 mL Methanol Equilibrate: 1 mL Water Load: 2 mL Diluted Sample Wash: 1 mL 5-30 % Methanol Elute: 2x 500 μL 2 % Formic Acid Methanol/Acetonitrile 	<p>General Method for Bases with $pK_a \leq 10.5$ Based on 30 mg sorbent mass</p> <ul style="list-style-type: none"> Condition: 1 mL Methanol Equilibrate: 1 mL Acidified Water Load: 2 mL Diluted Acidified Sample Wash: 1 mL 0.1 N HCl in Water Elute Neutrals/Acids: 2x 500 μL 0.1 N HCl in Methanol Wash: 1 mL 0.1 N HCl in Methanol Elute Bases: 2x 500 μL 5 % NH_4OH in Methanol 	<p>General Method for Bases with $pK_a \geq 8$ Based on 30 mg sorbent mass</p> <ul style="list-style-type: none"> Condition: 1 mL Methanol Equilibrate: 1 mL Water Load: 2 mL Diluted Sample, pH 4-7 Wash: 1 mL Water, pH 4-7 Elute Neutrals/Acids: 1 mL Organic Elute Any Base: 2x 500 μL 2 % Formic Acid in Methanol Elute Weak Bases: 2x 500 μL NH_4OH in Methanol 	<p>General Method for Acids, $pK_a \leq 5$ Based on 30 mg sorbent mass</p> <ul style="list-style-type: none"> Condition: 1 mL Methanol Equilibrate: 1 mL Acidified Water Load: 2 mL Diluted Sample pH within 4-7 Wash: 1 mL 25 mM Ammonium Acetate, Buffered pH 6-8 Elute Neutrals/Bases: 1 mL Methanol Elute Any Acid: 2x 500 μL 5 % NH_4OH in Methanol Elute Weak Acids: 2x 500 μL 2 % Formic Acid in Methanol

"This is the best service I have got after working in a chemistry lab for over 10 years."

Honghui Zhu, Agricultural Agri-Food Canada, Guelph, Ontario, Canada

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