

# Strata™ -X Polymeric SPE

U.S. Patent No. 7,119,145

## Strata-X

### Step 1. Select a Sorbent Compound-Directed Phase Selection

Analyte $pK_a$	0	1	2	3	4	5	6	Neutral	8	9	10	11	12	13	14
<b>Strata-X</b> <b>Strata-XL</b>	<b>Neutral Analyte or Analyte with <math>\log P &gt; -0.5</math></b> 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.														
<b>Strata-X-A</b> <b>Strata-XL-A</b>	<b>Acidic Analyte <math>pK_a \geq 2</math></b> Dimethyl butyl quaternary amine functional group provides strong retention of weakly acidic analytes and allows for 100 % organic washes, increasing sensitivity and method reproducibility.														
<b>Strata-X-AW</b> <b>Strata-XL-AW</b>	<b>Acidic Analyte <math>pK_a \leq 5</math></b> Di-amino functional group is highly selective for charged acidic compounds and allows for 100 % organic washes, increasing sensitivity and method reproducibility.														
<b>Strata-X-C</b> <b>Strata-XL-C</b>	<b>Basic Analyte <math>pK_a \leq 10.5</math></b> Sulfonic acid functional group is highly selective for weakly basic compounds and allows for 100 % organic washes, increasing sensitivity and method reproducibility.														
<b>Strata-X-CW</b> <b>Strata-XL-CW</b>	<b>Basic Analyte <math>pK_a \geq 8</math></b> 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.														
Specialty Sorbents	Application										Phase Description				

<b>Strata-X-Drug B</b>	<b>Basic Drugs of Abuse</b>	Proprietary strong cation-exchange sorbent that eliminates the need to condition / equilibrate the sorbent.
<b>Strata-X-Drug N</b>	<b>Neutral Drugs of Abuse</b>	Proprietary reversed phase sorbent that eliminates the need to condition / equilibrate the sorbent.

### Step 2. Select a Sorbent Mass Loading Capacity Chart

Strata-X Phase	Plasma /Serum	Urine	Filtered Tissue Homogenates	Water (particulate free)	Water (particulate-laden)	Mass (mg in tube)
<b>Strata-X, X-C, X-CW, X-A, X-AW</b>	100 $\mu$ L	250 $\mu$ L	10 mg	N.A.	N.A.	10 mg
	250 $\mu$ L	1 mL	50 mg	N.R.	N.R.	30 mg
	500 $\mu$ L	2 mL	100 mg	N.R.	N.R.	60 mg
	1 mL	4 mL	150 mg	50 mL	25 mL	100 mg
	N.A.	8 mL	300 mg	100 mL	50 mL	200 mg
	N.A.	20 mL	500 mg	500 mL	100 mL	500 mg
<b>Strata-XL, XL-C, XL-CW, XL-A, XL-AW</b>	50 $\mu$ L	125 $\mu$ L	5 mg	N.A.	N.A.	10 mg
	125 $\mu$ L	500 $\mu$ L	25 mg	N.R.	N.R.	30 mg
	250 $\mu$ L	1 mL	50 mg	N.R.	N.R.	60 mg
	500 $\mu$ L	2 mL	75 mg	25 mL	13 mL	100 mg
	N.A.	4 mL	150 mg	50 mL	25 mL	200 mg
	N.A.	10 mL	250 mg	250 mL	50 mL	500 mg

N.A. = Not Applicable (not commonly used)  
 N.R. = Not Recommended (may not provide expected results)



See the following pages for specific phase details and general extraction protocols.

# Strata™ -X Polymeric SPE

guarantee

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## Strata-X and Strata-XL

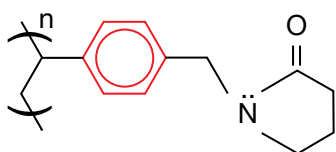
A reversed phase functionalized polymeric sorbent that gives strong retention of neutral, acidic, or basic compounds under aggressive, high organic wash conditions.

If Strata SPE products do not perform as well or better than your current SPE product of similar phase, mass and size, send in your comparative data within 45 days and keep the Strata SPE product for FREE!

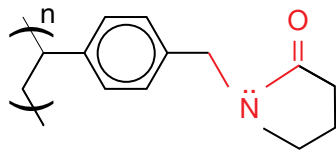
	Strata-X, 33 µm, 85 Å	Strata-XL, 100 µm, 300 Å
High Concentration Samples	✓	
Small Target Analytes (< 10 kDa)	✓	
Large Target Analytes (> 10 kDa)		✓
Large Volume Samples		✓
Viscous Samples		✓

### 3 Mechanisms of Retention

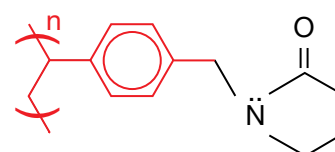
π-π Bonding



Hydrogen Bonding Dipole-Dipole Interactions



Hydrophobic Interaction



## Strata-X

### Ordering Information

Format	Sorbent Mass	Part Number	Unit	Price
<b>Tube</b>				
	30 mg	8B-S100-TAK**	1 mL (100/box)	
	30 mg	8B-S100-TBJ	3 mL (50/box)	
	60 mg	8B-S100-UBJ**	3 mL (50/box)	
	100 mg	8B-S100-EBJ	3 mL (50/box)	
	100 mg	8B-S100-ECH	6 mL (30/box)	
	200 mg	8B-S100-FBJ	3 mL (50/box)	
	200 mg	8B-S100-FCH	6 mL (30/box)	
	500 mg	8B-S100-HBJ	3 mL (50/box)	
	500 mg	8B-S100-HCH	6 mL (30/box)	
<b>Giga™ Tube</b>				
	500 mg	8B-S100-HDG	12 mL (20/box)	
	1 g	8B-S100-JDG	12 mL (20/box)	
	1 g	8B-S100-JEG	20 mL (20/box)	
	2 g	8B-S100-KEG	20 mL (20/box)	
	5 g	8B-S100-LFF	60 mL (16/box)	
<b>Teflon® Tube</b>				
	200 mg	8B-S100-FBJ-T	3 mL (50/box)	
	200 mg	8B-S100-FDG-T	12 mL (20/box)	
<b>96-Well Plate</b>				
	10 mg	8E-S100-AGB	2 Plates/Box	
	30 mg	8E-S100-TGB	2 Plates/Box	
	60 mg	8E-S100-UGB	2 Plates/Box	

### On-line Extraction Cartridge

Description	Part Number	Unit/Box	Price
Strata-X on-line extraction cartridge, 20 x 2.0 mm	00M-S033-B0-CB	ea	
Cartridge holder, 20 mm	CH0-5845	ea	

\*\*Tab-less tubes available. Contact Phenomenex for details.



For Large Volume Cleanup/Flash Analysis, use Giga Tubes  
For SPE Vacuum Manifolds and Accessories, see pp. 73-75



The General Extraction Protocol is a convenient starting point for SPE method development. Further optimization may be required to tailor the method to your specific needs.

## Strata-XL

### Ordering Information

Format	Sorbent Mass	Part Number	Unit	Price
<b>Tube</b>				
	30 mg	8B-S043-TAK	1 mL (100/box)	
	60 mg	8B-S043-UBJ	3 mL (50/box)	
	100 mg	8B-S043-EBJ	3 mL (50/box)	
	200 mg	8B-S043-FBJ	3 mL (50/box)	
	200 mg	8B-S043-FCH	6 mL (30/box)	
	500 mg	8B-S043-HCH	6 mL (30/box)	
<b>Giga Tube</b>				
	2 g	8B-S043-KDG	12 mL (20/box)	
	2 g	8B-S043-KEG	20 mL (20/box)	
	5 g	8B-S043-LEG	20 mL (20/box)	
	5 g	8B-S043-LFF	60 mL (16/box)	
	10 g	8B-S043-MFF	60 mL (16/box)	
<b>96-Well Plate</b>				
	30 mg	8E-S043-TGB	2 Plates/Box	

\* To control flow rate with Strata-XL, use a stopcock (AH0-6048) when processing samples with a vacuum manifold.

## General Extraction Protocol

Method written for a 30 mg/1 mL tube

### Condition

1 mL Methanol followed by 1 mL D.I. Water

### Load

Recommended volume of sample (see page 56)

### Wash

1 mL 5-60 % Methanol in D.I. Water. Allow sorbent to dry for 30 seconds

### Elute

2x 500 µL 2 % Formic acid in Methanol or Acetonitrile