

Technical Notes Available  
Visit [www.phenomenex.com/Sample Prep](http://www.phenomenex.com/Sample Prep)

\* Strata polymer resins have a larger surface area than Strata silica-based material hence requiring slightly more solvent per gram for processing. The elution volumes are specific to the chemical nature of the analyte being extracted, its concentration in the sample, the chemical nature of the eluting solvent and the bed mass used. The above is a guideline, an elution study should be conducted.

Practical Minimum Wash and Elution Volume Recommended	Practical Minimum Wash and Elution Volume Based on Polymer-Sorbent*	Practical Minimum Wash and Elution Volume Recommended	Practical Minimum Wash and Elution Volume Based on Silica-Sorbent
200 µL	100 µL	10 mg	120 µL
600 µL	300 µL	30 mg	—
—	—	—	60 µL
1.2 mL	600 µL	60 mg	—
2 mL	100 mg	100 mg	1.2 mL
3 mL	1.5 mL	150 mg	1.8 mL
4 mL	2 mL	200 mg	2.4 mL
—	—	500 mg	6 mL
10 mL	10 mL	500 mg	6 mL
—	—	—	12 mL
—	—	—	24 mL
—	—	—	30 mL
—	—	—	60 mL
—	—	—	120 mL

### Sorbent Wash and Elution Volumes\*

### Suggested Loading Capacity: Silica-Based Sorbents

Sample Matrix	Blood, serum, plasma	Urine	Filtered tissue homogenates	Environmental Samples	Water (particulate-free) drinking	Water (particulate-laden) rivers, runoff, etc.	Soil extracts
Sorbent Mass	50 mg sorbent per 250 µL	50 mg sorbent per 500 µL	100 mg sorbent per 100 mg tissue	Sorbent Mass	500 mg/100 mL - 500 mL sample	1 g/100 mL - 500 mL sample	1 g/100 g of soil extract

### Suggested Loading Capacity: Polymer-Based Sorbents

Sample Matrix	Blood, serum, plasma	Urine	Filtered tissue homogenates	Environmental Samples	Water (particulate-free) drinking	Water (particulate-laden) rivers, runoff, etc.	Soil extracts
Sorbent Mass	30 mg	30 mg	60 mg	Sorbent Mass	200 mg	500 mg	500 mg
Strata-X, X-C, X-CW, X-A, X-AW	250 µL	1 mL	100 mg	Strata-X, X-C, X-CW, X-A, X-AW	100 - 400 mL	100 - 400 mL	100 g
Strata-XL, XL-C, XL-CW, XL-A, XL-AW	125 µL	500 µL	50 mg	Strata-XL, XL-C, XL-CW, XL-A, XL-AW	50 - 200 mL	50 - 200 mL	50 g

### Sample Pre-treatment Recommendations

Soil, sludge  
Homogenize with organic or aqueous solvent depending upon analyte solubility. Settle, decant, and filter supernatant; perform Soxhlet extraction.

Ointments, creams  
Oil based:  
Dissolve in non-polar organic (hexane) and extract via polar SPE.

Water based:  
Dissolve in water or water miscible organic (methanol) and extract via non-polar SPE.

Fruit, vegetable, herbs  
Homogenize with organic or aqueous solvent depending upon analyte solubility and filter supernatant. Use appropriate SPE mechanism for the dissolution solvent (hexane = polar mechanism; aqueous = non-polar mechanism; methanol/ACN = either non-polar or polar after proper dilution).

Biological Samples (Liquid)  
Urine, whole blood, serum, plasma, bile, etc.  
Dilute sample 1:2 with appropriate buffer, precipitate proteins if disruption of protein binding (sonication, enzymatic, acids/bases).

Biological Samples (Solid)  
Organ tissues, feces, GI contents  
Homogenize with organic or aqueous solvent depending upon Perform direct Matrix Solid Phase Dispersion (MSPD) extraction on tissue.

Available formats:

**Tubes** requires 12 or 24-position vacuum manifold, or syringe and adapter cap, or robot

**96-Well Plates** requires 96-well plate manifold or robot

**Giga™ Tubes** requires Tall Boy™ manifold

**On-line SPE** requires HPLC system and switch valve

Products are available worldwide

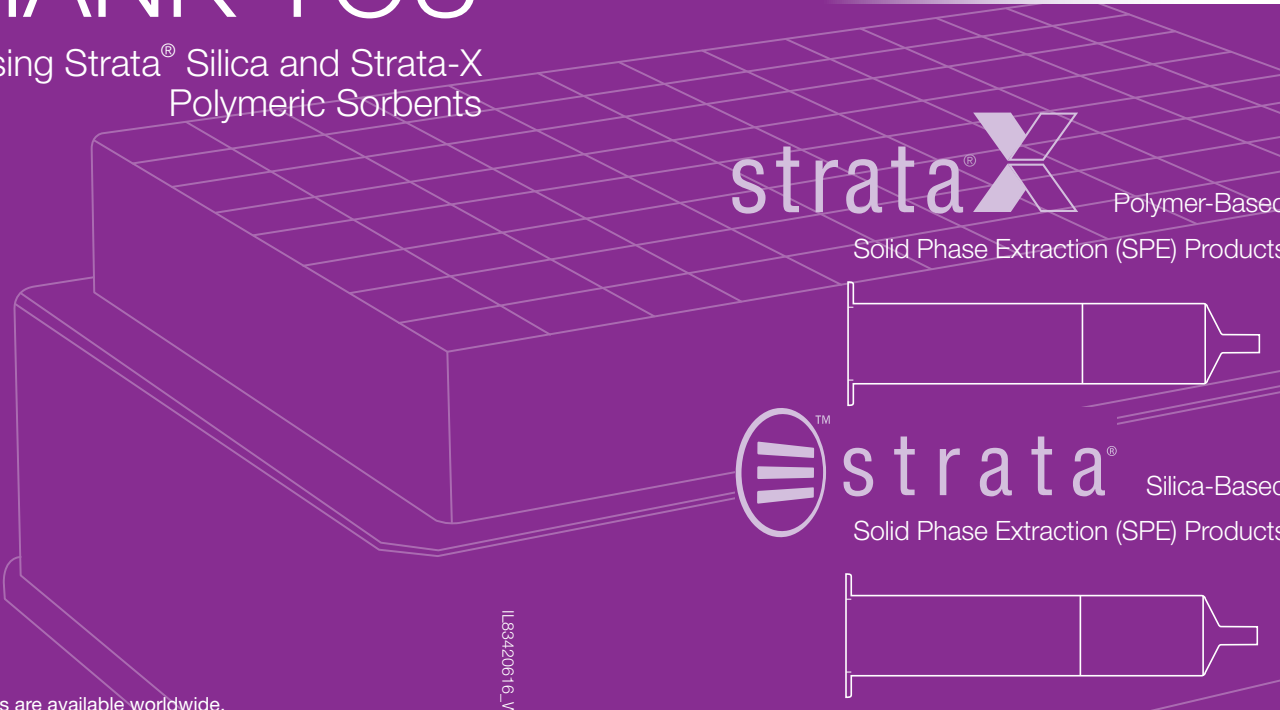
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|------------------------|-----------------|----------------------|
| Albania                | Greece          | Panama               |
| Algeria                | Guatemala       | Papua New Guinea     |
| Argentina              | Hungary         | Paraguay             |
| Australia              | Iceland         | Peru                 |
| Austria                | India           | Philippines          |
| Azerbaijan             | Indonesia       | Poland               |
| The Bahamas            | Ireland         | Portugal             |
| Bangladesh             | Israel          | Puerto Rico          |
| Barbados               | Italy           | Qatar                |
| Belarus                | Jamaica         | Romania              |
| Belgium                | Japan           | Russia               |
| Bolivia                | Jordan          | Saudi Arabia         |
| Bosnia and Herzegovina | Kazakhstan      | Serbia               |
| Brazil                 | Kenya           | Singapore            |
| Bulgaria               | Kuwait          | Slovakia             |
| Canada                 | Latvia          | Slovenia             |
| Chile                  | Lebanon         | South Africa         |
| China                  | Lithuania       | South Korea          |
| Colombia               | Luxembourg      | Spain                |
| Costa Rica             | Macedonia       | Sri Lanka            |
| Croatia                | Malaysia        | Sweden               |
| Cyprus                 | Malta           | Switzerland          |
| Czech Republic         | Mauritius       | Taiwan               |
| Denmark                | Mexico          | Thailand             |
| Dominican Republic     | Montenegro      | Tunisia              |
| Ecuador                | Morocco         | Turkey               |
| Egypt                  | The Netherlands | Ukraine              |
| El Salvador            | New Zealand     | United Arab Emirates |
| Estonia                | Nicaragua       | United Kingdom       |
| Fiji                   | Nigeria         | Uruguay              |
| Finland                | Norway          | USA                  |
| France                 | Oman            | Venezuela            |
| Germany                | Pakistan        | Vietnam              |

**Terms and Conditions**  
Subject to Phenomenex Standard Terms and Conditions which can be viewed at [www.Phenomenex.com/TermsAndConditions](http://www.Phenomenex.com/TermsAndConditions)

**Trademarks**  
Strata is a registered trademark of Phenomenex.  
Giga and Tall Boy are trademarks of Phenomenex.  
Strata-X is patented by Phenomenex. U.S. Patent No. 7, 119,145

# THANK YOU

for choosing Strata® Silica and Strata-X Polymeric Sorbents



Phenomenex products are available worldwide.

[www.phenomenex.com/mysupport](http://www.phenomenex.com/mysupport)

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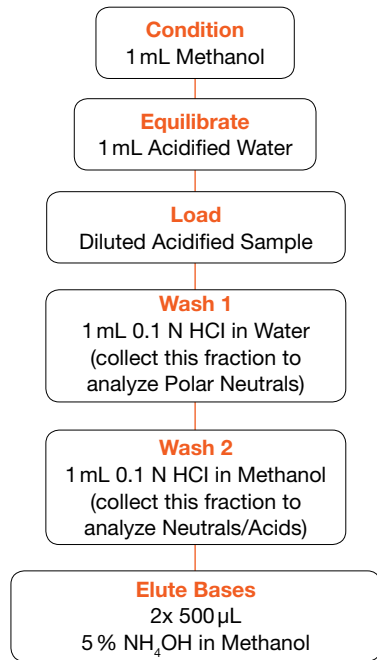
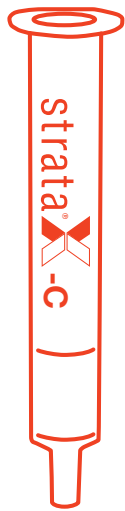
phenomenex  
...breaking with tradition™

General Methods and User Guide

**Strata®-X-C / Strata-XL-C**

Strong Cation Exchange & Reversed Phase

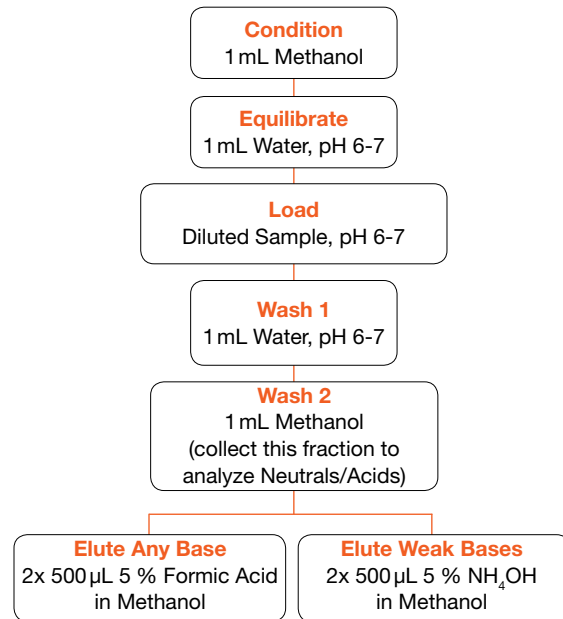
for Bases with  $pK_a \leq 10.5$



**Strata-X-CW / Strata-XL-CW**

Weak Cation Exchange & Reversed Phase

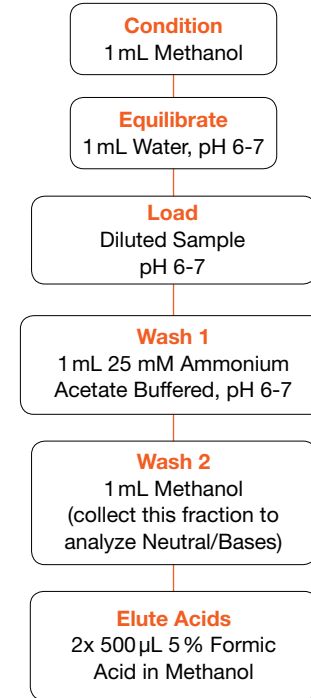
for Bases with  $pK_a > 8$



**Strata-X-A / Strata-XL-A**

Strong Anion Exchange & Reversed Phase

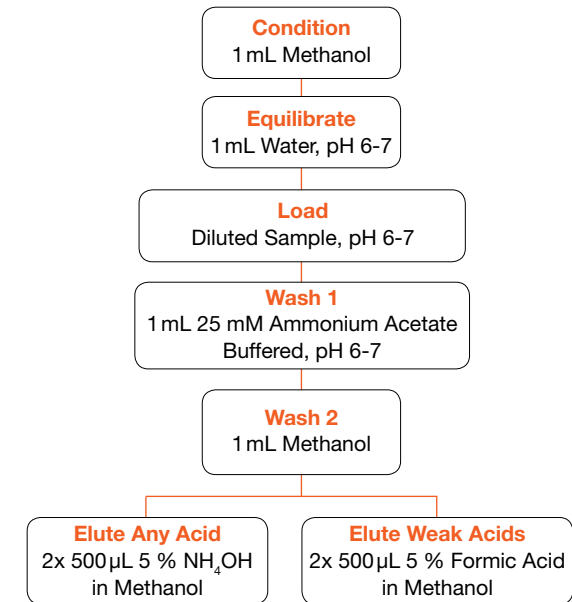
for Acids with  $pK_a > 2$



**Strata-X-AW / Strata-XL-AW**

Weak Anion Exchange & Reversed Phase

for Acids with  $pK_a \leq 5$

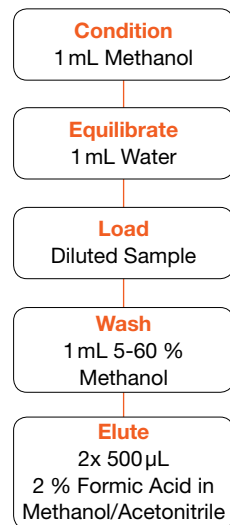


Use our online SPE Method Development Tool to create a customized method. Visit [www.phenomenex.com/info/mdtool](http://www.phenomenex.com/info/mdtool)

**Strata-X / Strata-XL**

Reversed Phase

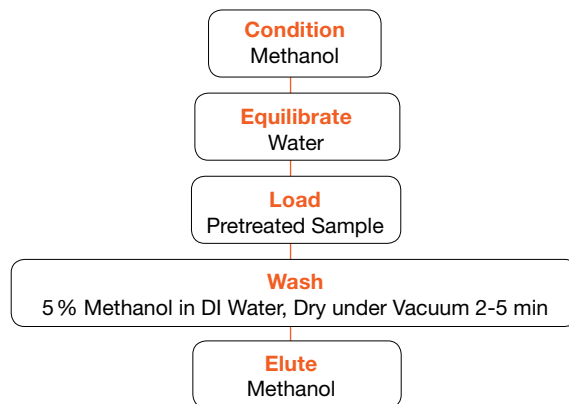
for Neutral Compounds



**Strata® C18, C8, Phenyl, CN, SDB-L**

Reversed Phase

for Hydrophobic Compounds



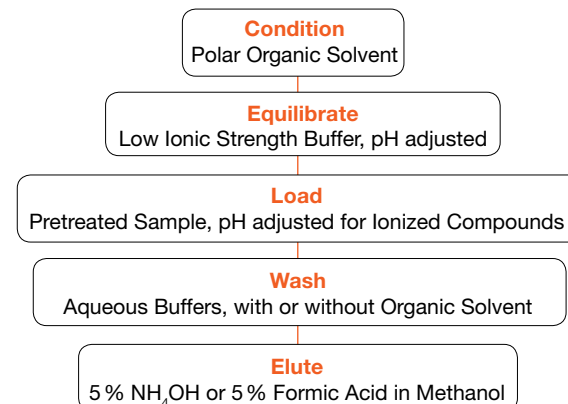
Suggested Elution Solvents	Polarity
• THF	
• Acetone	
• Ethyl Acetate	
• Acetonitrile**	
• Isopropanol	
• Methanol	

\*\* when using aromatic sorbents such as Phenyl or SDB-L, acetonitrile is a stronger elution solvent than methanol

**Strata SCX, WCX, SAX, NH<sub>2</sub> (WAX)**

Ion Exchange

for Charged/Ionized Compounds

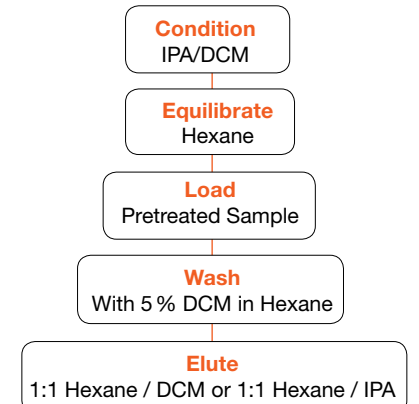


Suggested Elution Solvents
For complete ionization sample should be adjusted 2 pH units above or below the $pK_a$ of analyte. pH can be used to effectively neutralize sorbent or analyte. This can be accomplished by combining 2% strong acid or base with a water miscible organic solvent such as <b>methanol or acetonitrile</b> . [As an alternative method, high ionic strength buffer can be used to displace the analyte, which may not be ideal for analysis by sensitive detection instruments such as a mass spec.]

**Strata Silica, Florisil, NH<sub>2</sub>, CN**

Normal Phase

for Polar Retention Mechanisms



Suggested Elution Solvents	Polarity
• Hexane	
• Methylene Chloride	
• THF	
• Acetone	
• Acetonitrile	
• Isopropanol	

\* Strata-X based on 30 mg/1 mL sorbent mass. The above is a convenient starting point for SPE method development. Further optimization may be required to tailor the method to your specific needs.