

Key words: Environmental, Forensic/tox, Clinical, Food/Agrochemical, Bioanalytical

TELOS *neo*[™] Polymeric SPE Columns and 96-well Plates is a range of sample preparation products designed to provide clean extracts and reduce time spent on method development by providing a robust and reliable set of chemistries based on a high capacity water-wettable copolymeric sorbent.

Sorbent Chemistries

SPE Retention Mechanism	TELOS <i>neo</i> Chemistry	Analytes
Reversed Phase (Non-polar)	TELOS <i>neo</i> PRP	All analytes with a degree of non-polar (hydrophobic) character
Mixed-mode Non-polar and Strong Cation Exchange	TELOS <i>neo</i> PCX	Ionisable basic analytes
Mixed-mode Non-polar and Strong Anion Exchange	TELOS <i>neo</i> PAX	Ionisable acidic analytes
Mixed-mode Non-polar and Weak Cation Exchange	TELOS <i>neo</i> WCX	Strong bases, quaternary amines, compounds with multiple basic groups
Mixed-mode Non-polar and Weak Anion Exchange	TELOS <i>neo</i> WAX	Strong acids

Advantages

- Reliable analysis
 - High surface area and capacity to retain a wide range of analytes
 - Water-wettable polymer not affected by drying out
- Rapid and stress-free method development
 - Choose from five sorbent chemistries with supporting generic methods

- Robust chemistry with no secondary interactions and not affected by sorbent bed drying out
- Reduce total cost of analysis
 - Faster method development process

Silica vs Polymeric SPE

	Silica	Polymer
Water-wettable (product not affected by drying out; gives better flow characteristics, retention, elution etc.)	Not water-wettable; must be conditioned correctly and not allowed to run dry during operation (needs constant attention from operator)	Most are water-wettable and provide a robust method not prone to drying out. Not affected by operator error.
Secondary Interactions (need to be considered for retention and elution for some analytes (e.g. Basic compounds))	Secondary interactions from silanol groups (this can be advantageous)	Most products do not have any secondary interactions (mixed-mode have two interactions, but not primary/secondary)
Flow (if carried out incorrectly, can affect retention, wash steps and elution)	Flow rates should be carefully controlled, particularly for ion exchange SPE	Polymer chemistry is less affected by flow inconsistencies due to surface area and capacity
Sample Loading Capacity	Lower surface area and lower loading capacity in general	Higher sample loading possible due to surface area
Method Development	Can be more cumbersome as methods need to consider all of the above parameters (and more) to get the best results	Easy, with generic methods to support all products and suitable for a wide range of compounds