

Application Note M13.0

SiliaBond Metal Scavenger: Easily Scalable

Scale up study was made on **SiliaBond Thiol** to demonstrate that the screening test experimental condition can be easily scaling up upto 125 times with comparable scavenging results.

SCALE UP STUDY: SCAVENGING OF Pd(OAc)₂ USING SILIABONDTHIOL

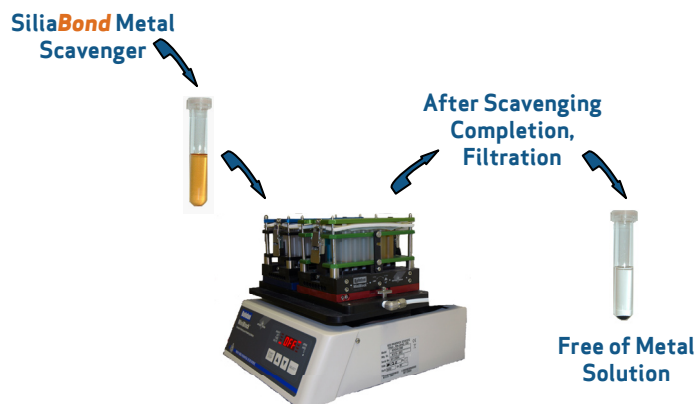
Screening Test: up to 48 screening can be done simultaneously in 10 mL reaction tubes using a MiniBlock™ system to identify the most efficient scavenger and do optimization steps with (“closed system”).

Medium & Large Scale Tests: reaction done using screening test experimental condition in an “opened system” (like overhead stirring) for larger solution volume.

Note: be aware that solvent evaporation with an “opened system” may affect scavenging results because the solution has been concentrated.

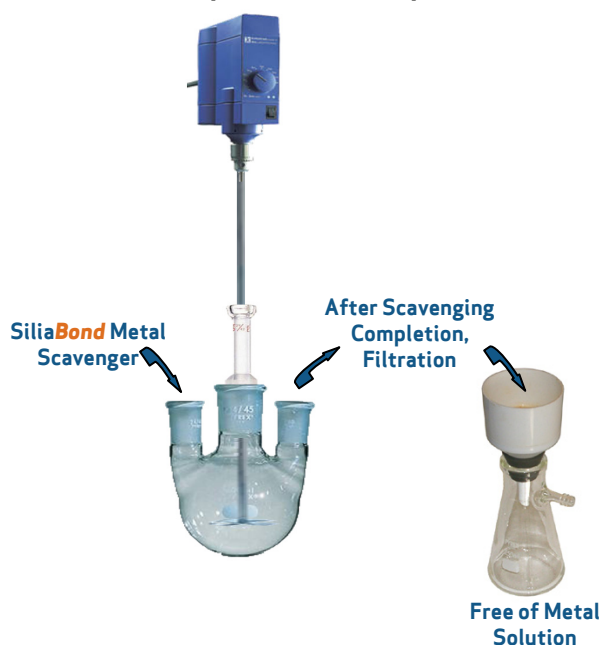
SCREENING TEST PROTOCOL

(8 mL)



SCALING UP PROTOCOL

(150 & 1 000 mL)



Pd(OAc)₂: Residual Palladium Concentration and % of captation

Test	Sample volume	Screening test ... scale up	Residual concentration	% of captation
Screening	8 mL	-	< 1 ppm	99.99%
Medium Scale	150 mL	20 times	< 1 ppm	99.99%
Large Scale	1 000 mL	125 times	< 1 ppm	99.99%

Experimental Cdns: 4 eq. of SiliaBond Thiol, 4h, 80°C. Initial concentration: 200 ppm in DMF.