

Supporting information.

Ester-free Thiol-X Resins: New Materials with Enhanced Mechanical Behavior and Solvent Resistance

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Table S1. Double bond consumption rates for the tested compositions.

RP_(max) values were calculated between 10 and 40 % double bond conversions, and they are average values of three IR runs.

Compositions	RP_(max) (mmol×s⁻¹)	St. Dev.
SiTSH/DVS	0.206	0.039
PETMP/DVS	0.038	0.004
SiTSH/TMPTA	0.015	0.001
PETMP/TMPTA	0.002	0.001
SiTSH/TTT	0.072	0.002
PETMP/TTT	0.386	0.048

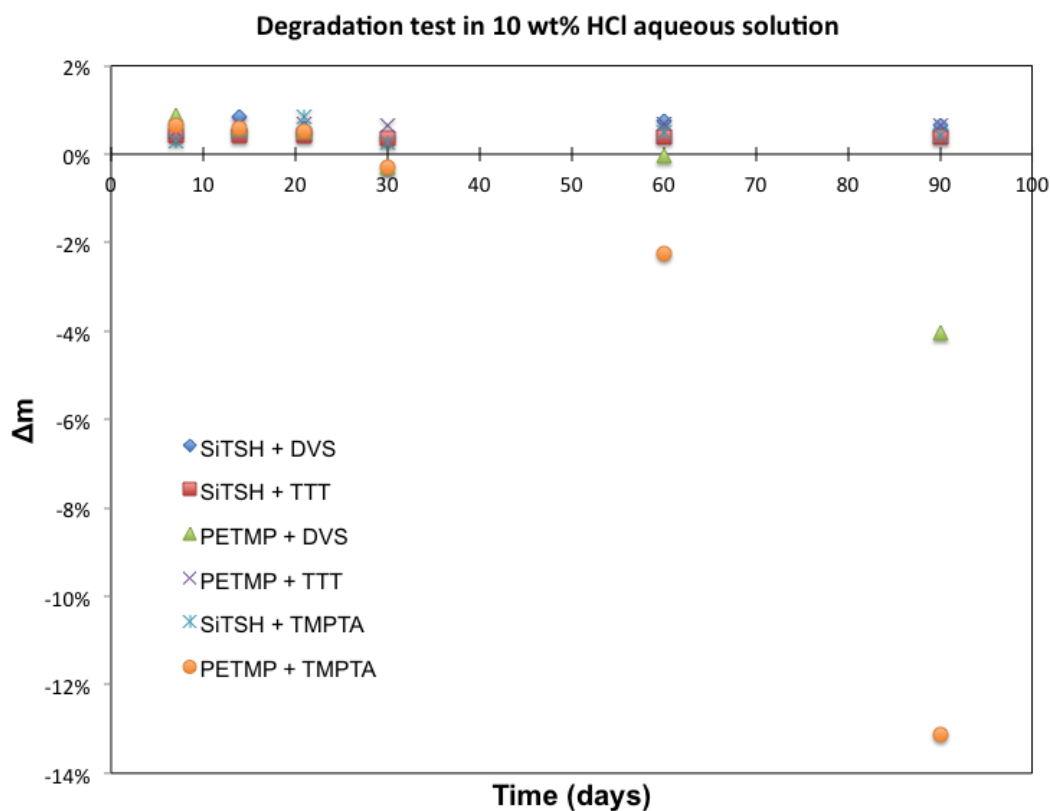


Fig. S1. Degradation behavior in 10 % HCl aqueous solution over 90 day period.

Table S2. Summary of the solvent resistance properties in 10% HCl_{aq} after 30, 60 and 90 days of treatment.

Resin	Cured Resin Properties		
	wt % Loss/Gain (10 wt% HCl) Day 30	wt % Loss/Gain (10 wt% HCl) Day 60	wt % Loss/Gain (10 wt% HCl) Day 90
SiTSH/TTT	+0.4 ± 0.1	+0.4 ± 0.1	+0.4 ± 0.1
PETMP/TTT	+0.7 ± 0.1	+0.7 ± 0.1	+0.7 ± 0.1
SiTSH/TMPTA	+0.4 ± 0.1	+0.5 ± 0.1	+0.4 ± 0.1
PETMP/TMPTA	+0.5 ± 0.3	-2.2 ± 0.1	-13. ± 1
SiTSH/DVS	+0.6 ± 0.2	+0.7 ± 0.2	+0.7 ± 0.2
PETMP/DVS	+0.9 ± 0.1	-0.1 ± 0.1	-4.0 ± 0.1

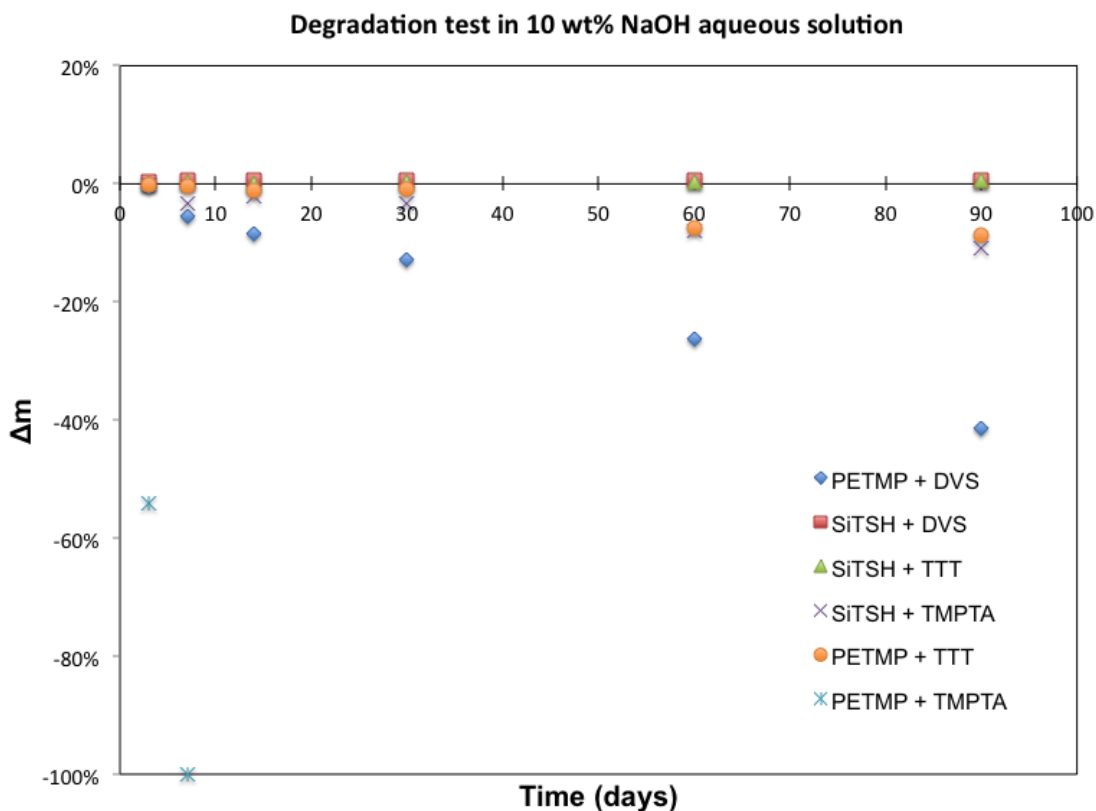


Fig. S2. Degradation tests in 10 % NaOH aqueous solution over 90 day period.

Table S3. Summary of the solvent resistance properties in 10% NaOH_{aq} after 30, 60 and 90 days of treatment.

Resin	Cured Resin Properties		
	wt % Loss/Gain (10 wt% NaOH) Day 30	wt % Loss/Gain (10 wt% NaOH) Day 60	wt % Loss/Gain (10 wt% NaOH) Day 90
SiTSH/TTT	+0.3 ± 0.1	+0.2 ± 0.1	+ 0.5 ± 0.1
PETMP/TTT	-1.0 ± 0.1	-3.6 ± 0.6	-7.9 ± 1.5
SiTSH/TMPTA	-3.3 ± 0.6	-7.9 ± 0.7	-11 ± 2
PETMP/TMPTA	Degraded after 7 days	-	-
SiTSH/DVS	+0.6 ± 0.2	+0.5 ± 0.3	+0.7 ± 0.1
PETMP/DVS	-12.9 ± 0.1	-26 ± 1	-41 ± 4