

# Electronic Supplementary Material

## Facile generation of highly durable thiol-functionalized polyhedral oligomeric silsesquioxane based superhydrophobic melamine foam

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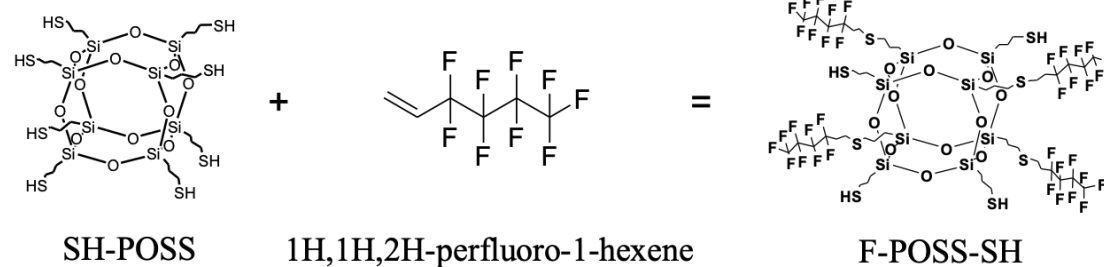
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**Scheme. S1** The synthetic route of F-POSS-SH.

**Fig. S1** (a) FTIR, (b)  $^1\text{H}$  NMR and (c)  $^{14}\text{Si}$  NMR spectra of SH-POSS.

**Fig. S2** EDS mapping images of (a) pristine MF and (b) F-POSS-SH@MF (The mole ratio between SH-POSS and 1H,1H,2H,1H-perfluoro-1-hexene was 1:4).

**Table. S1** The element result of pristine MF and F-POSS-SH@MF.



Scheme. S1 The synthetic route of F-POSS-SH.

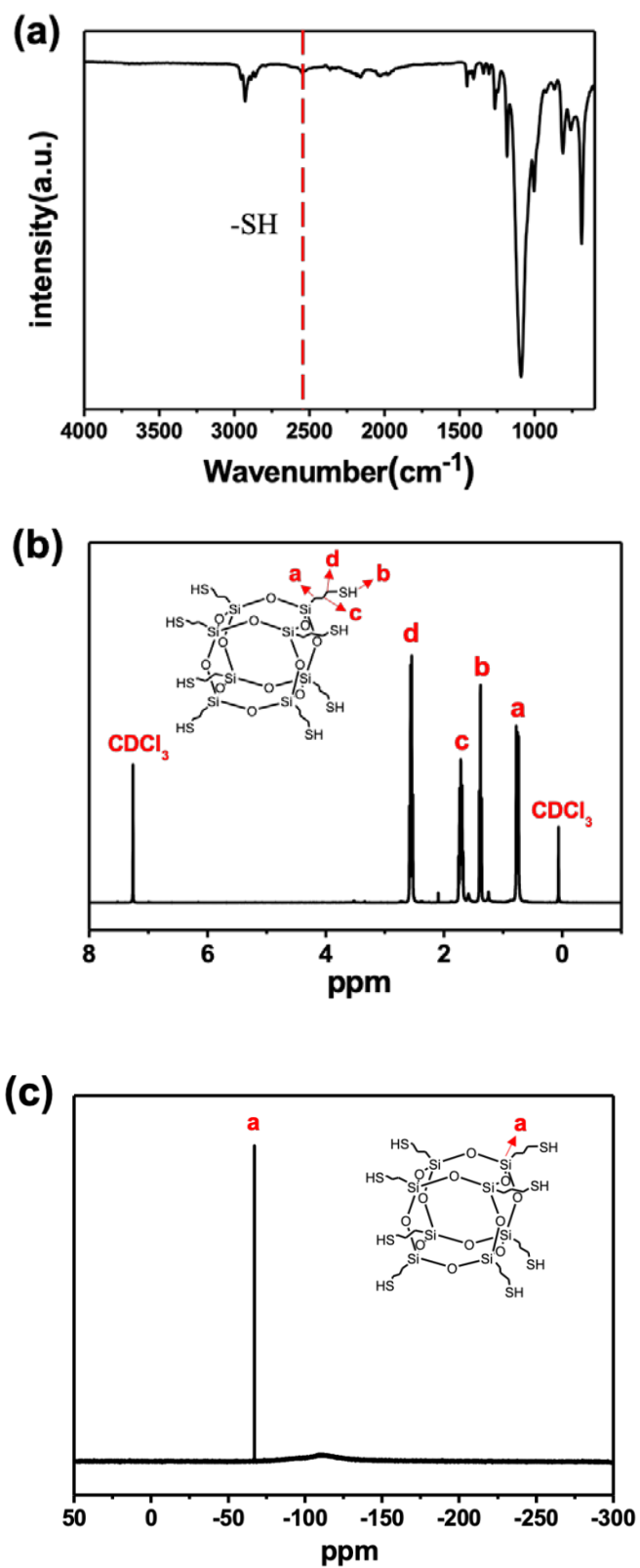


Fig. S1 (a) FTIR, (b)  $^1\text{H}$  NMR and (c)  $^{14}\text{Si}$  NMR spectra of SH-POSS.

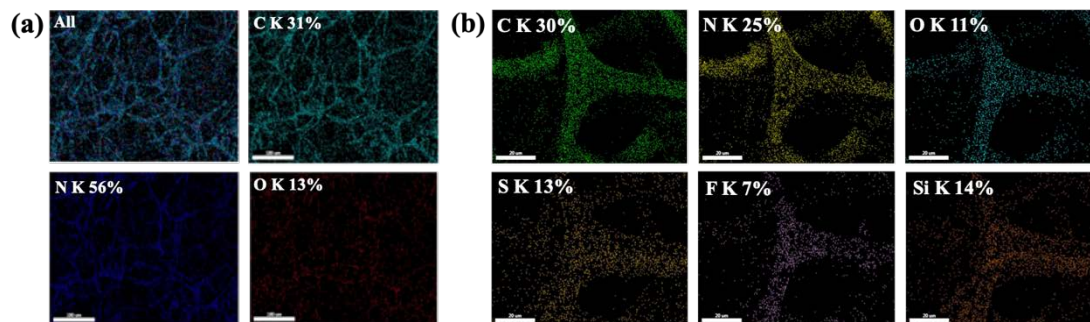


Fig. S2 EDS mapping images of (a) pristine MF and (b) F-POSS-SH@MF (1 wt%).

Table. S1 The element result of pristine MF and F-POSS-SH@MF.

Samples	Weight%					
	C %	N %	O %	S %	F %	Si %
Pristine MF	31 %	56 %	13 %			
F-POSS-SH@MF	30 %	25 %	11 %	13 %	7 %	14 %