Supporting Information

Fractality and Metastability of a Complex Amide Cross-linked Dipodal Alkyl/siloxane Hybrid

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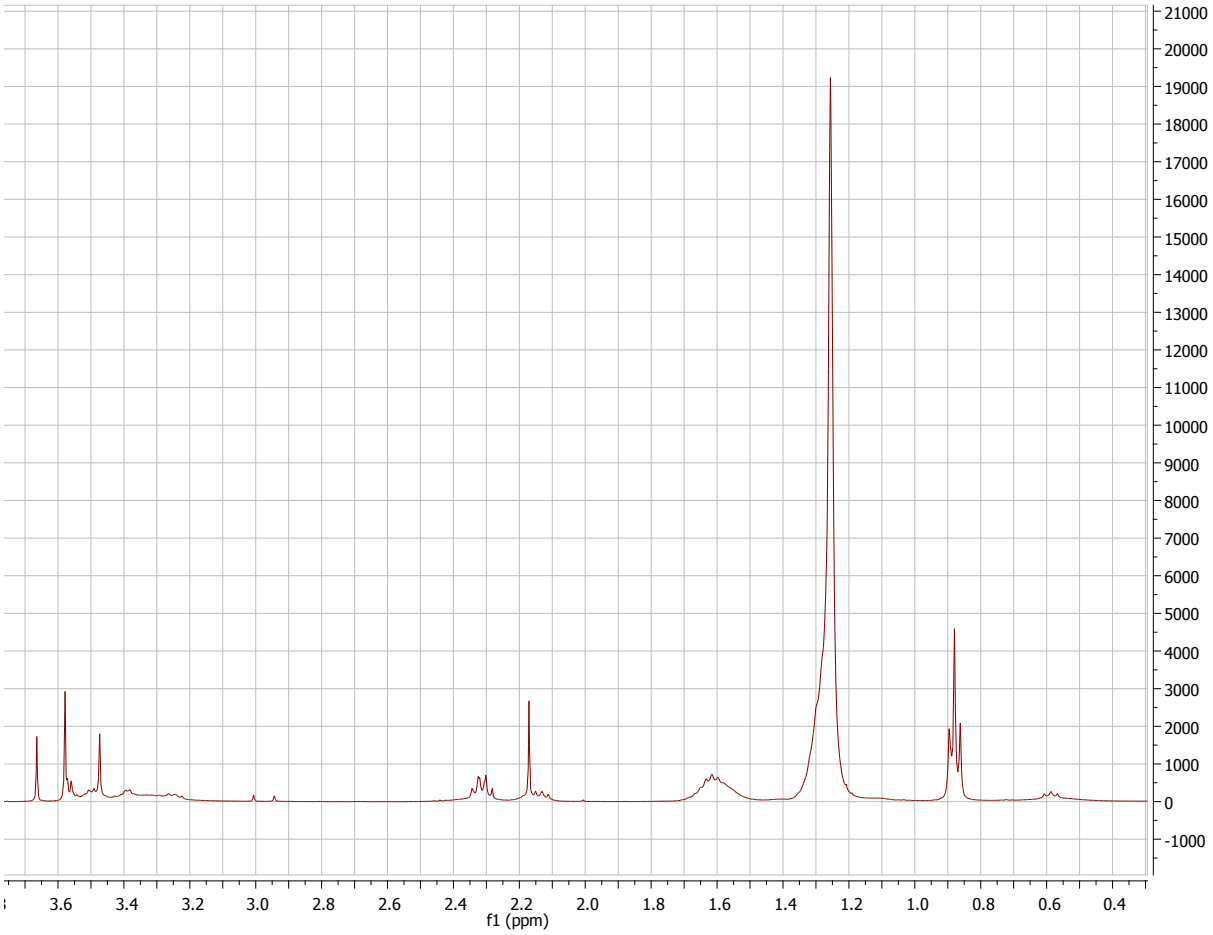


Fig. S1 ^{1}H NMR spectrum of precursor P**.**

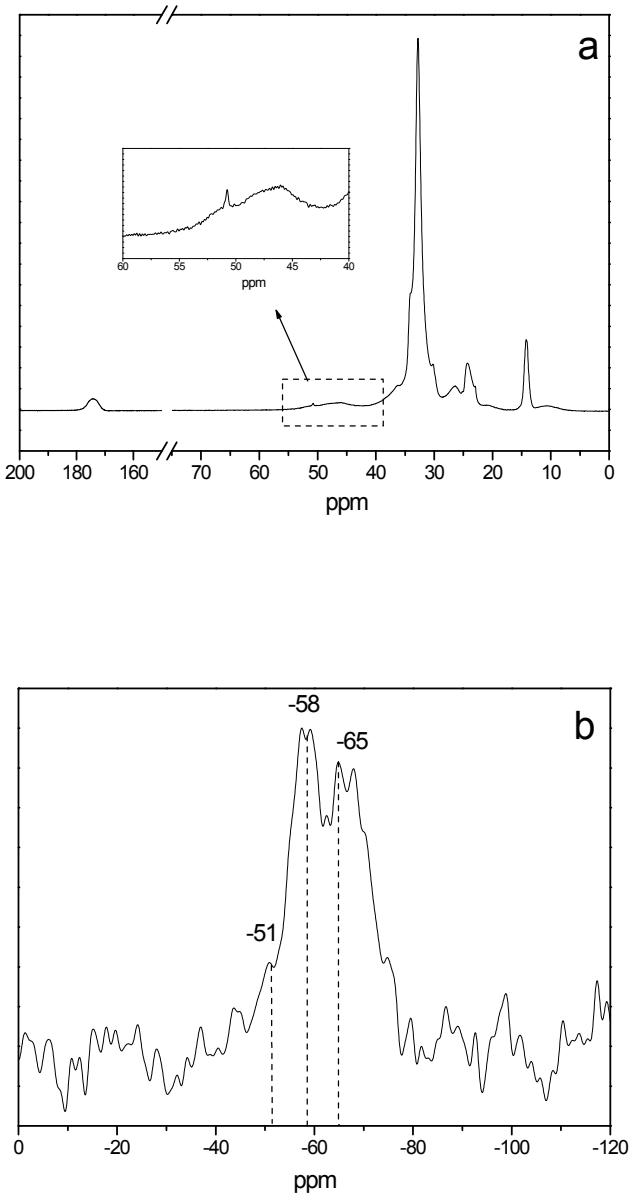


Fig. S2 ^{13}C CP/MAS (a) and ^{29}Si MAS (b) NMR spectra of hybrid **A.**

Table S1 ^{13}C CP/MAS and ^{29}Si MAS NMR data (δ in ppm) of hybrid **A**

^{13}C CP/MAS RMN		**^{29}Si MAS RMN**	
δ (ppm)	Attribution	δ (ppm)	Attribution
174.03	NH***C***(=O) and N**C**(=O)	-50.1 (5.6)	**T^1** (CH_2-Si(OSi)$(OR)_2$) **(area)**
50.76	N***C***H_2 and O**C**H_3	-58.5 (48.2)	**T^2** (CH_2-Si$(OSi)_2$(OR) **(area)**
36.53, sh	***C***H_2-C(=O)N**,** ***C***H_2-C(=O)NH and ***C***H_2-NH-C(=O)	-68.2 (46.1)	**T^3**(CH_2-Si$(OSi)_3$) **(area)**
34.10, sh		80	**c**
32.80	***C***H_2 *all trans* conformations	$RSi(OR)_{0.5}(O)_{1.2}$	**Empirical Formula**
30.00, sh	***C***H_2 *gauche* conformations		
26.40	***C***H_2		
24.43	Si-CH_2***C***H_2 and CH_2***C***H_2CH_3		
23.00			
14.00	CH_2***C***H_3		
10.81	Si-***C***H_2		

Notes: c (policondensation degree) = $1/3(A(T^1)+2A(T^2)+3A(T^3))*100$

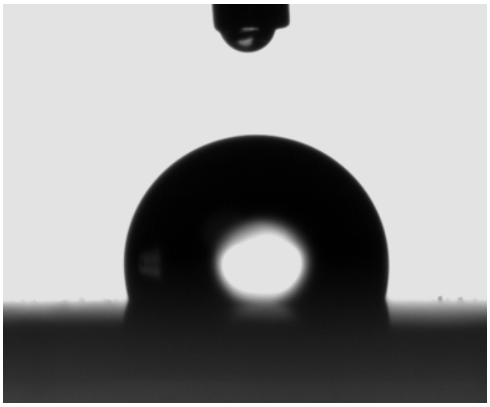
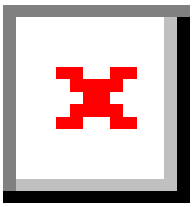
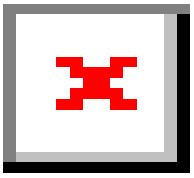
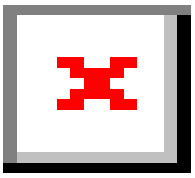
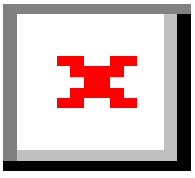


Fig. S3. Picture of water droplet on the surface of a pestle of hybrid A confirming its hydrophobic nature.









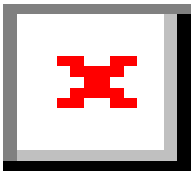


Fig. S4 EDS mapping of hybrid **A**: Si (c), C (d) and O (e).

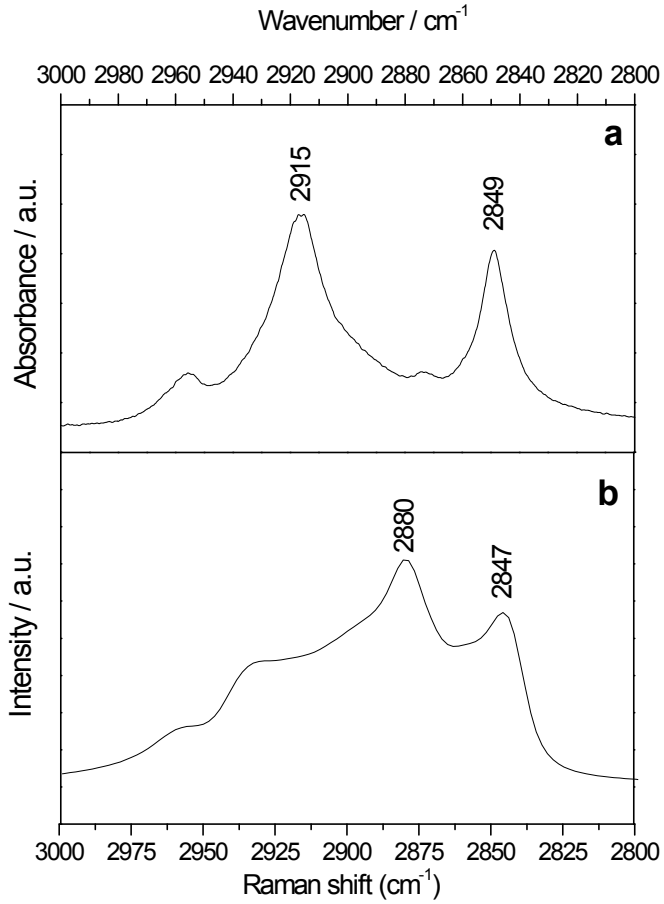


Fig. S5 ATR/FT-IR (a) and FT-Raman (b) spectra of hybrid **A** in the $\nu_a CH_2$ and $\nu_s CH_2$ regions.

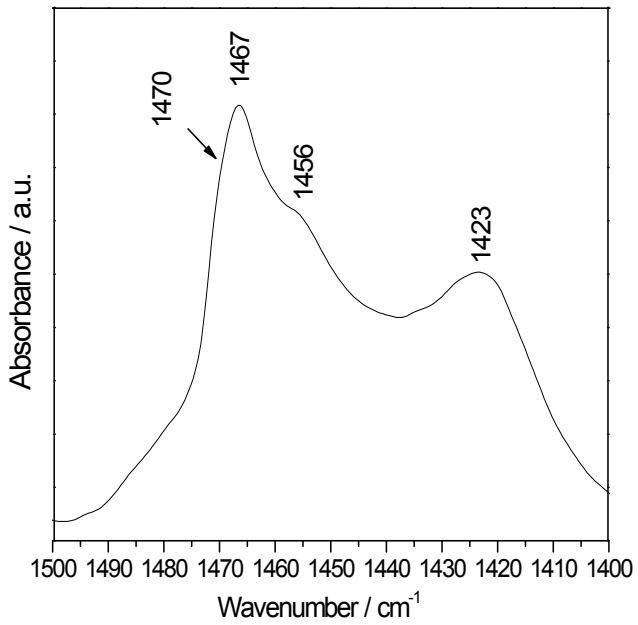


Fig. S6 FT-IR spectrum of hybrid **A** in the δCH_2 region.

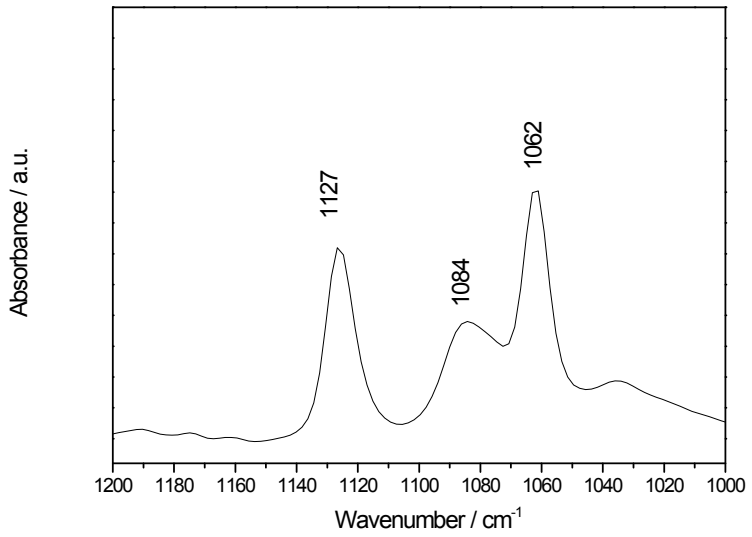


Fig. S7 FT-Raman spectrum of hybrid **A** in the νC-C region.

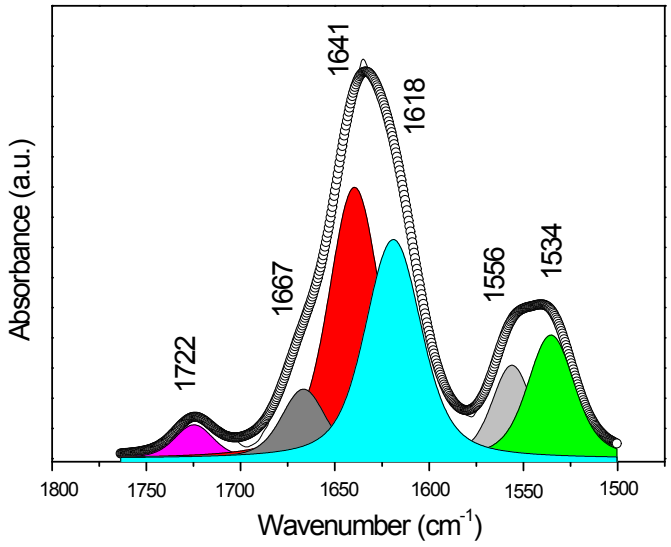


Fig. S8 Curve-fitting results performed in the amide I and amide II regions of hybrid **A**.