

Supporting information for

A novel synthetic approach to poly(hydrosiloxane)s *via* hydrolytic oxidation of primary organosilanes with AuNPs-stabilized Pickering interfacial catalyst

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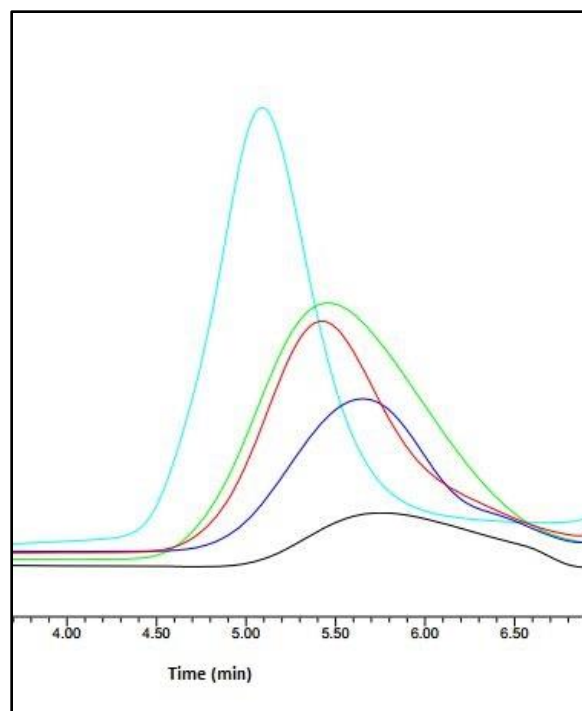


Figure S1. GPC profiles during polymerization of iBA at different time intervals.

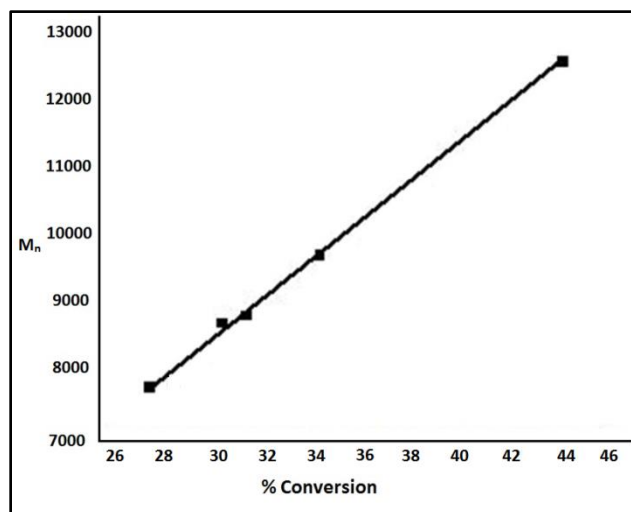
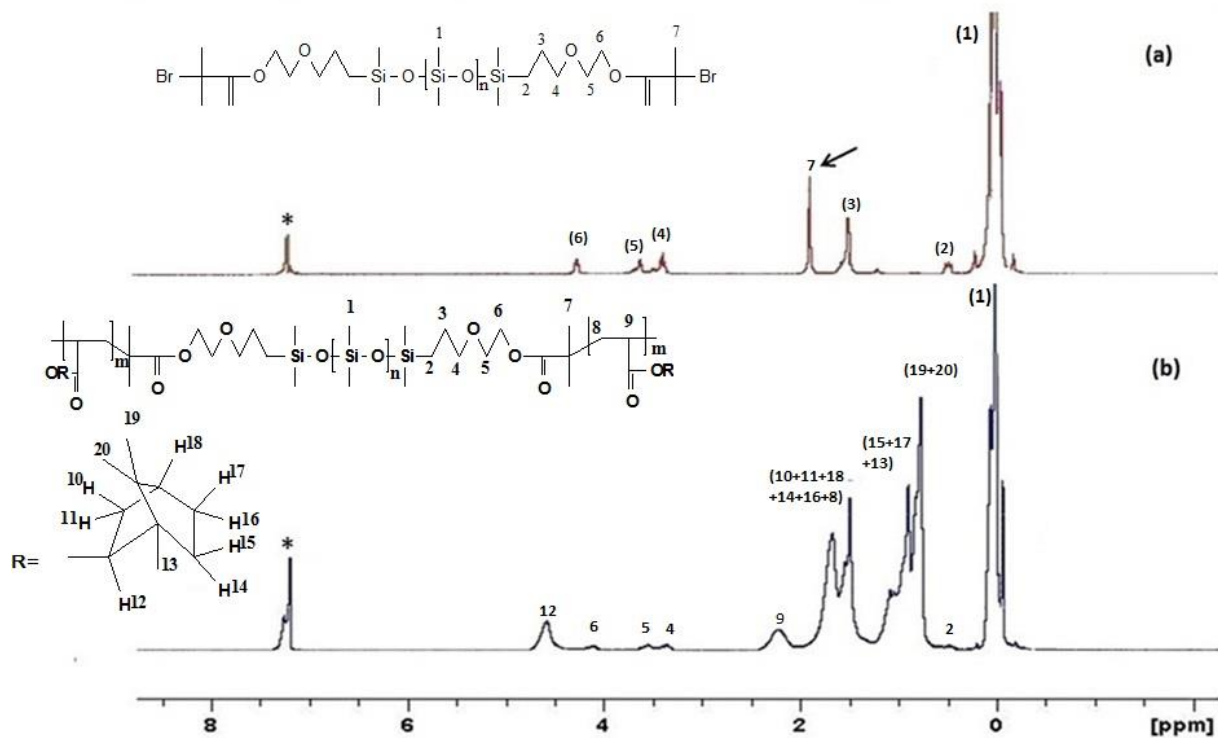


Figure S2. Plot of molecular weight (M_n) vs % conversion for the ATRP of iBA.



asterisk (*) = CDCl_3 peak

Figure S3: ^1H NMR spectrum of (a) macroinitiator and (b) polymer 1.

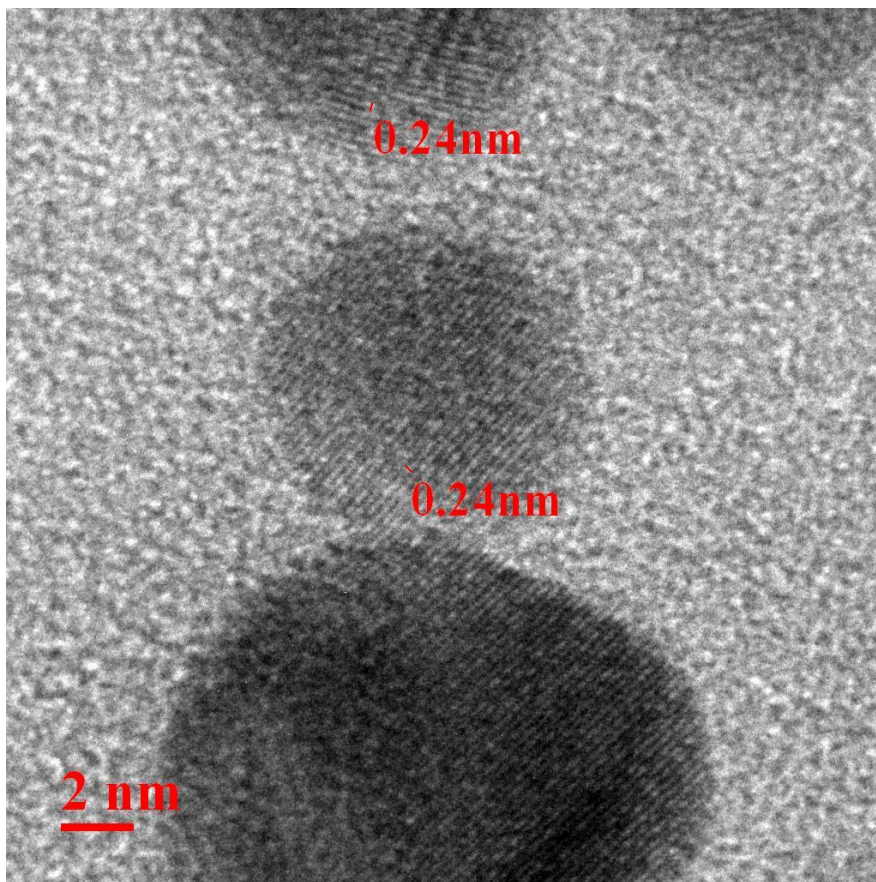


Figure S4. HRTEM image of AuNPs in chloroform.

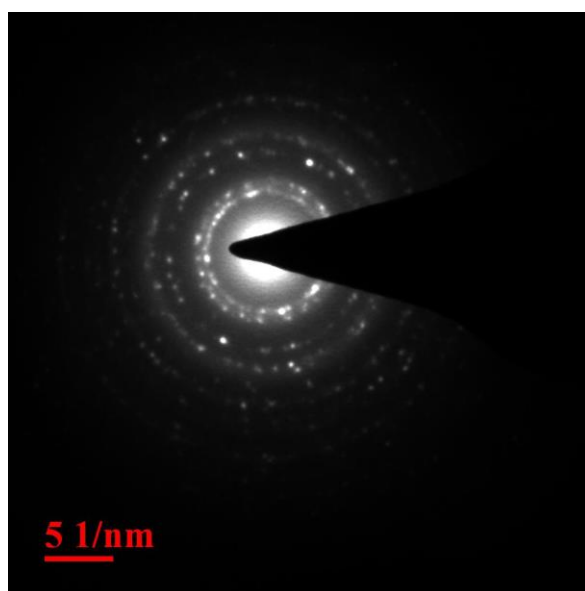


Figure S5: SAED pattern of AuNPs.

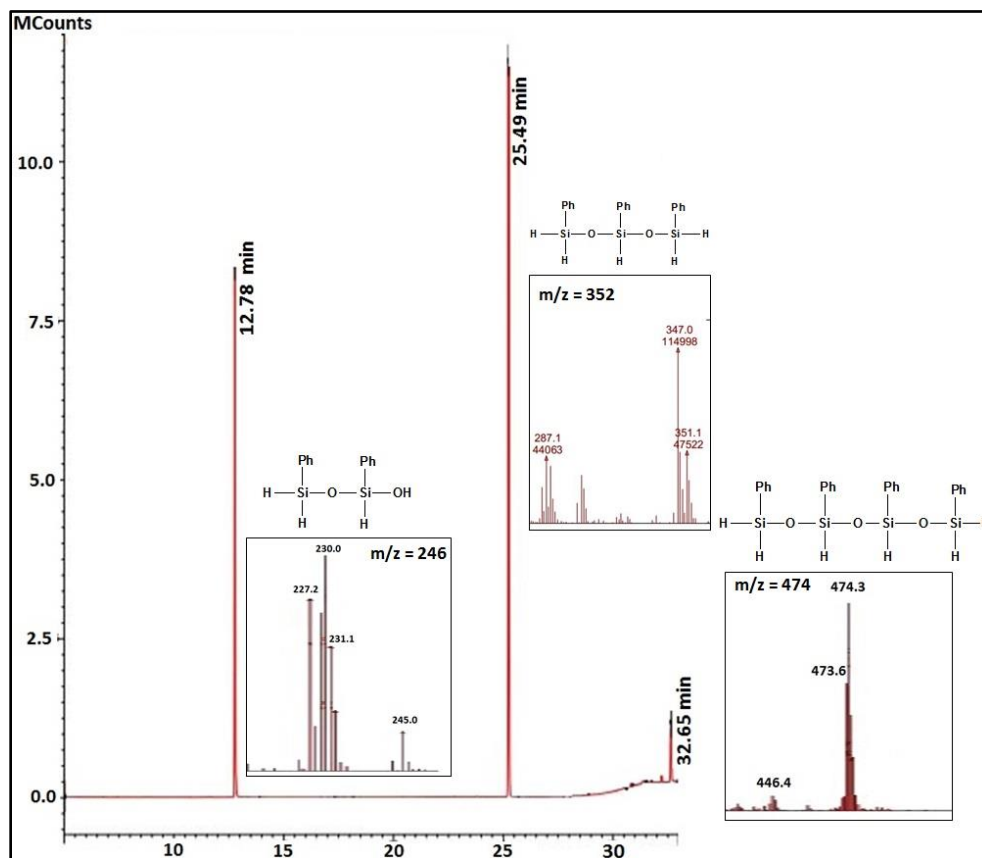


Figure S6. GC-MS spectrum of the intermediates formed after 2 h during the hydrolytic oxidation of phenylsilane.

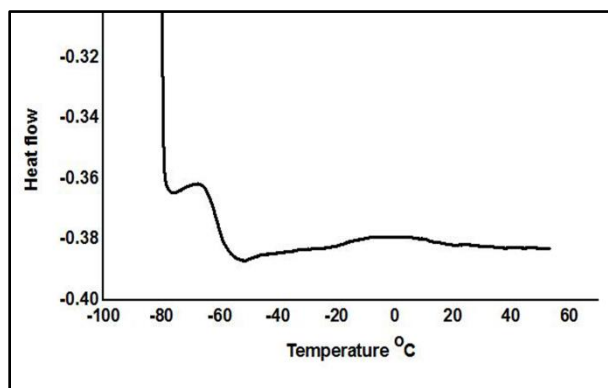


Figure S7. DSC profile of polymer 2.

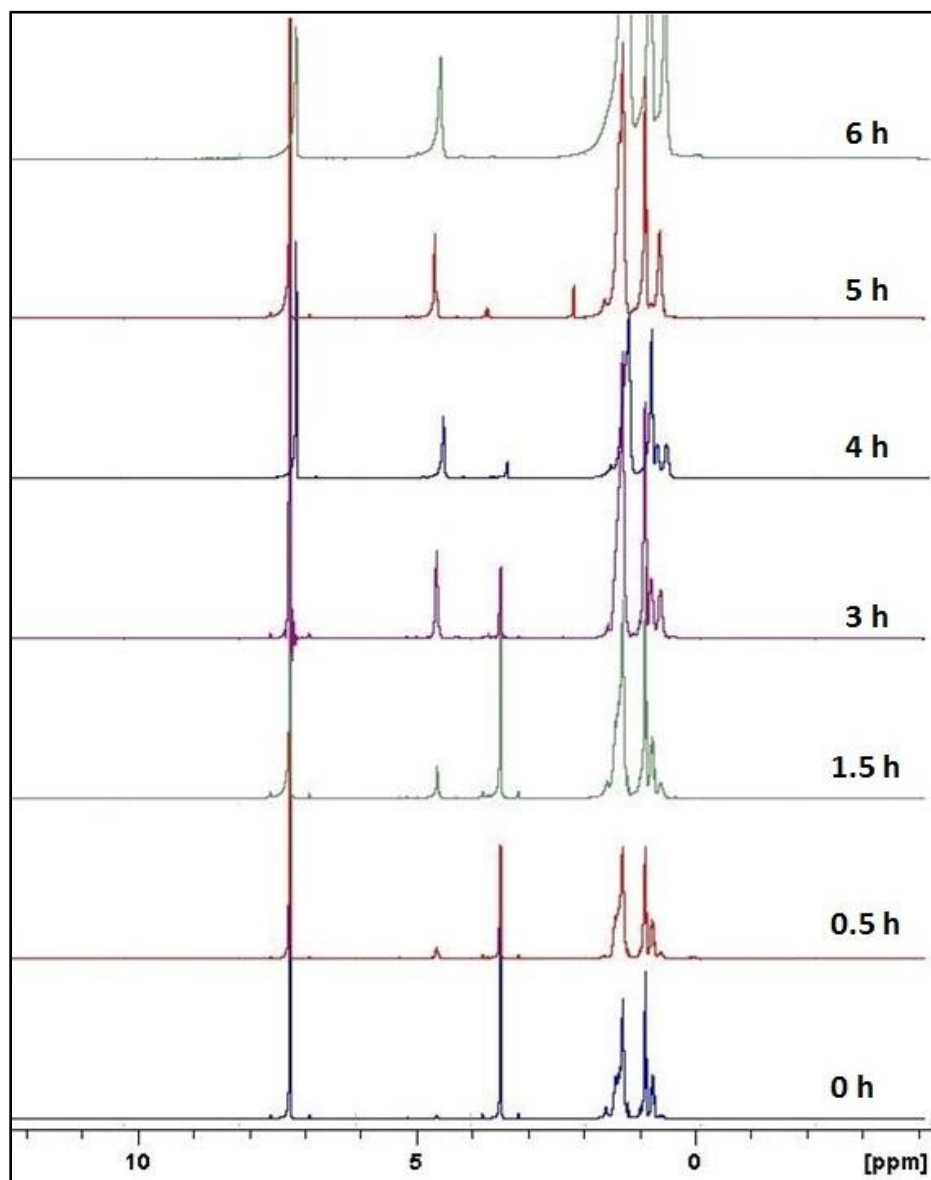


Figure S8. ^1H NMR spectra at different time intervals during hydrolytic oxidation of hexylsilane.

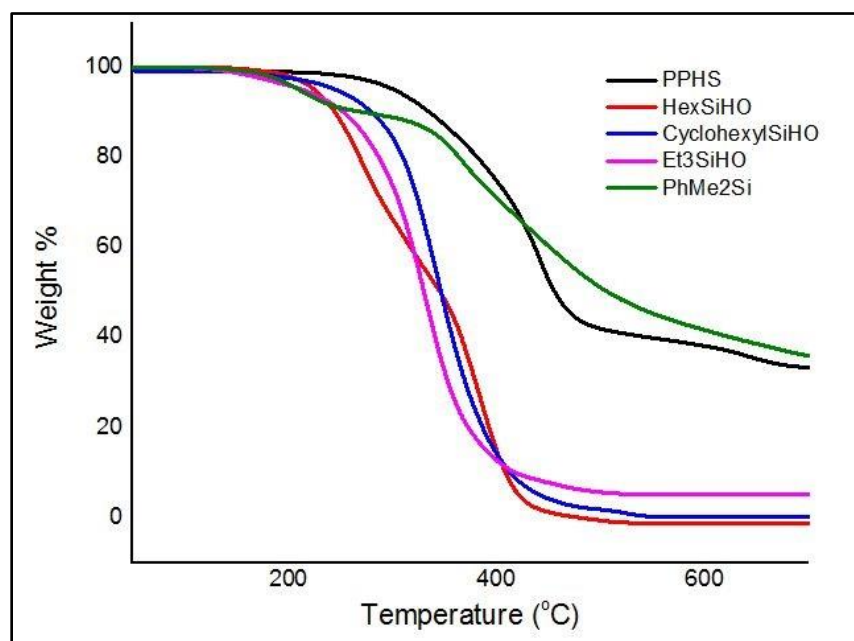


Figure S9. TGA profiles of polymer 2-6

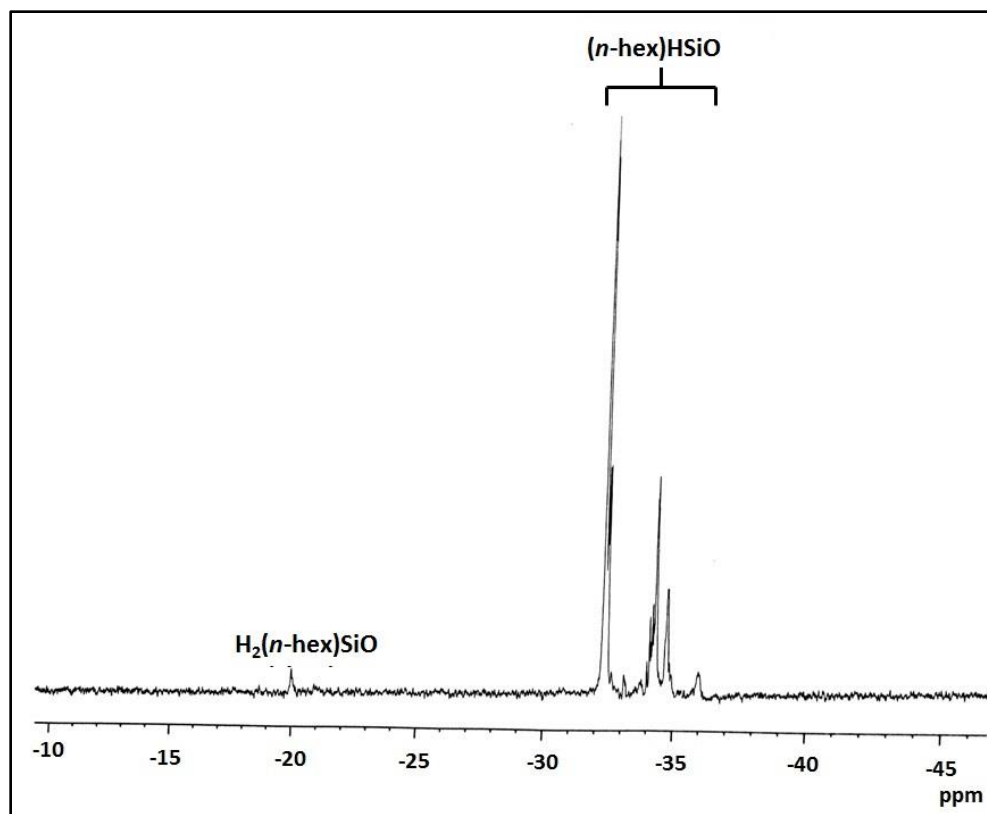


Figure S10(a): $^{29}\text{Si}\{^1\text{H}\}$ NMR spectrum of $\text{H}_2\text{RSiO}[\text{HRSiO}]_n\text{SiRH}_2$, ($\text{R} = n\text{-Hex}$), **3**.

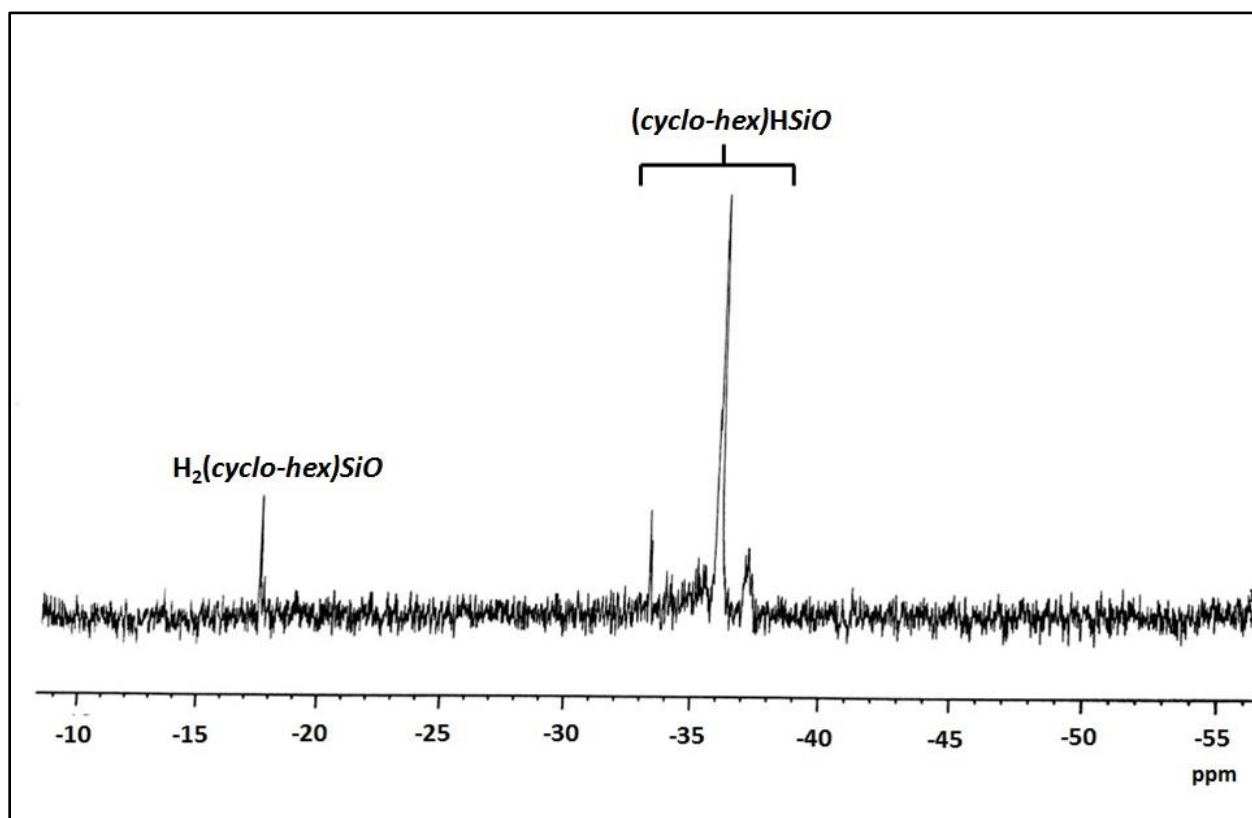


Figure S10 (b): $^{29}\text{Si}\{^1\text{H}\}$ NMR of $\text{H}_2\text{RSiO}[\text{HRSiO}]_n\text{SiRH}_2$ ($\text{R} = \text{cyclo-Hex}$), **4**.

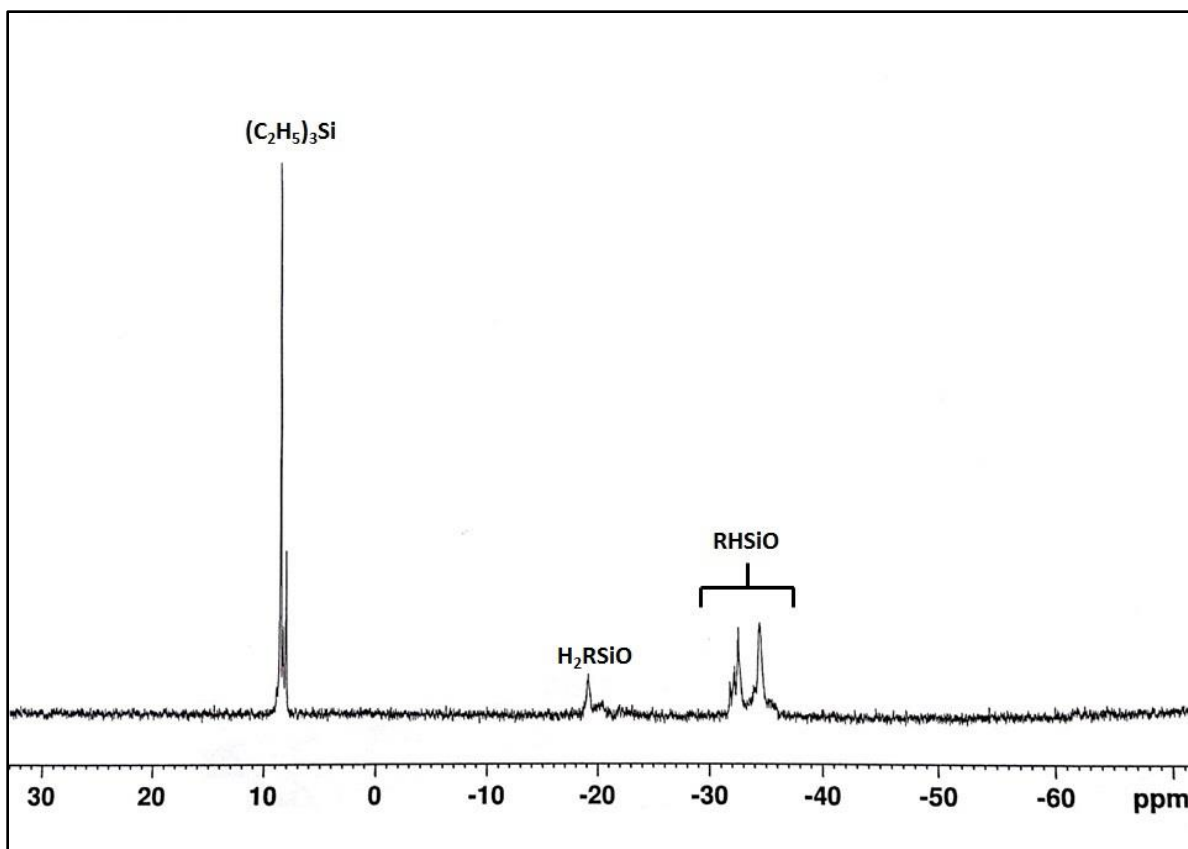


Figure S10(c): $^{29}\text{Si}\{^1\text{H}\}$ NMR of $\text{H}_2\text{RSiO}[\text{HRSiO}]_n\text{SiRH}_2$ ($\text{R} = \text{Et}_3\text{SiCH}_2\text{CH}_2$), **5**

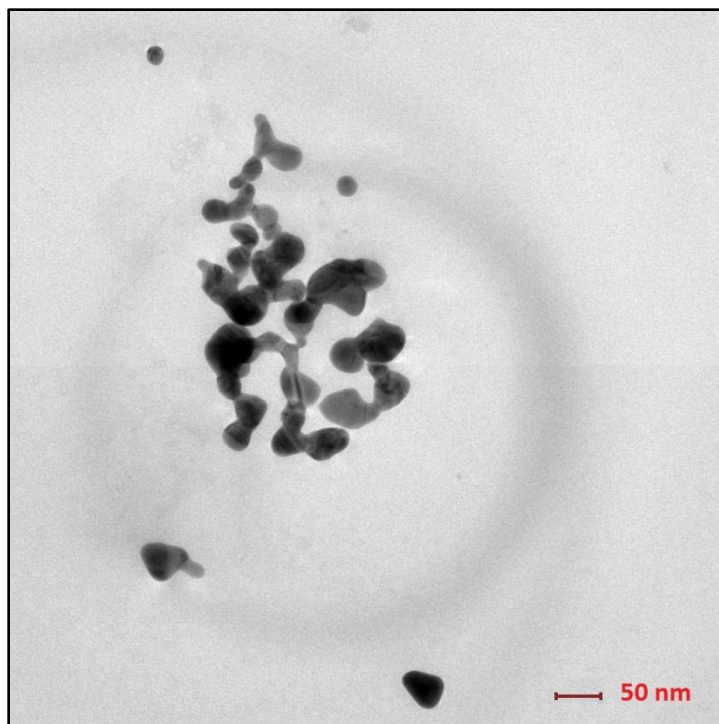


Figure S11. HRTEM image of AuNPs after first cycle of the reaction.

