SUPPORTING INFORMATION

Catalytic oxidation of diorganosilanes to 1,1,3,3-tetraorganodisiloxanes with gold nanoparticle assembly at water-chloroform interface

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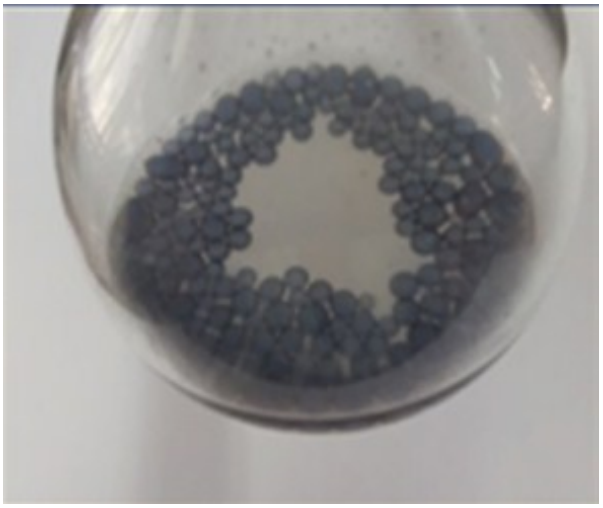

Fig. S1. Photograph of self-assembly of AuNPs (in **PIC-1**) stabilized at water-chloroform interface

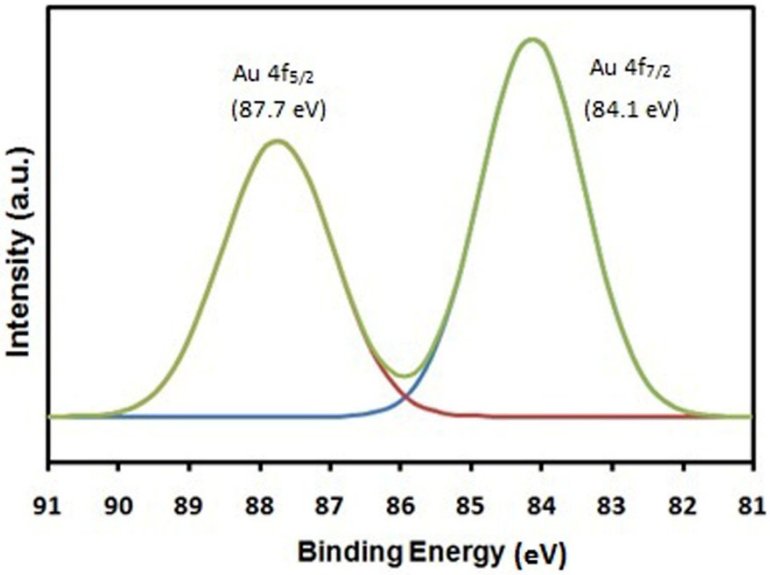

Fig. S2. X-Ray Photoelectron spectrum of AuNPs.

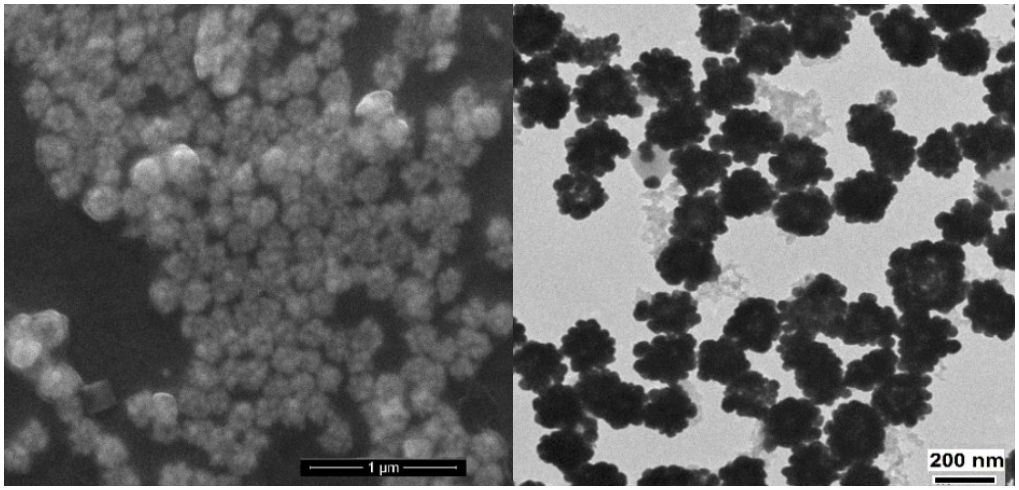

Fig. S3. FESEM and HRTEM micrographs of AuNPs in **PIC-1**.

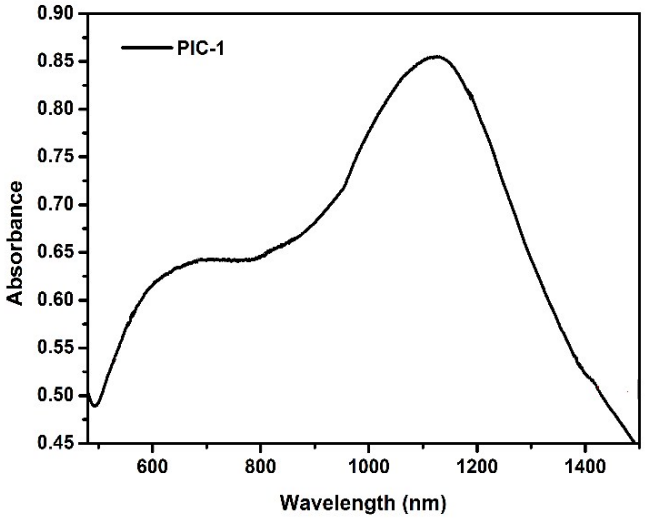

Fig. S4. UV-Vis spectrum of AuNPs in **PIC-1**.

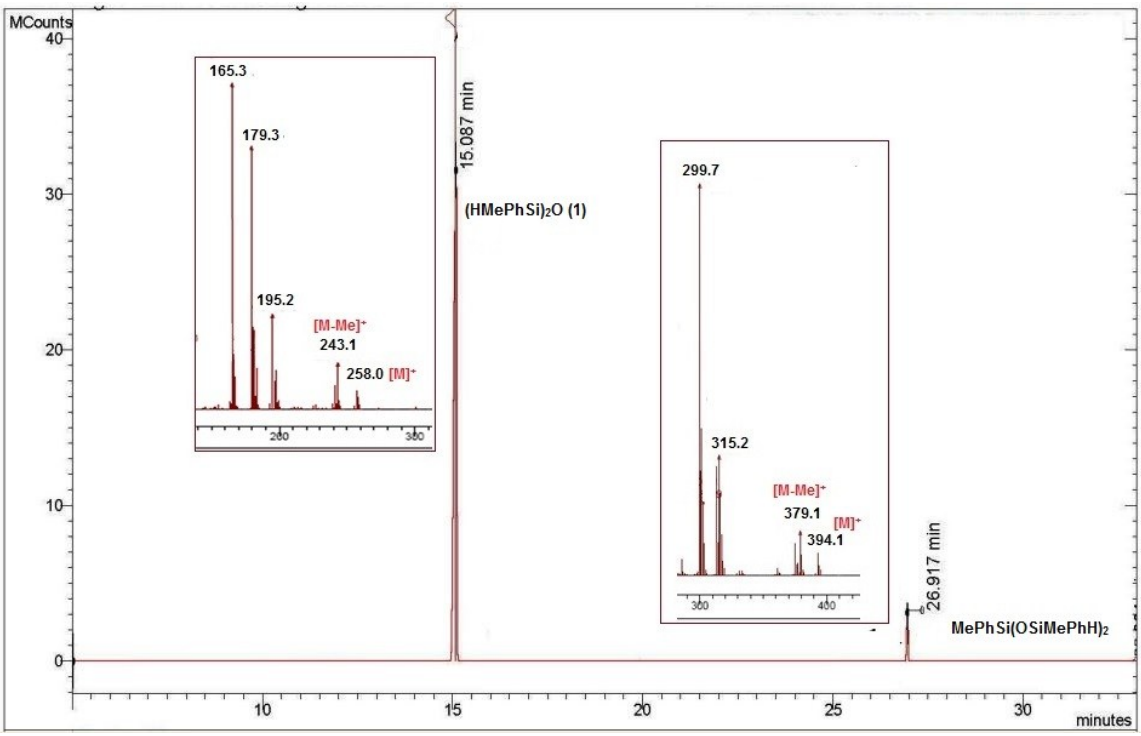

Fig. S5. GC-MS spectrum of $(HMePhSi)_2O$ (**1**): *m/z* = 258, t_R = 15.0 min and $MePhSi(OSiMePhH)_2$: *m/z* = 394, t_R = 26.9 min.

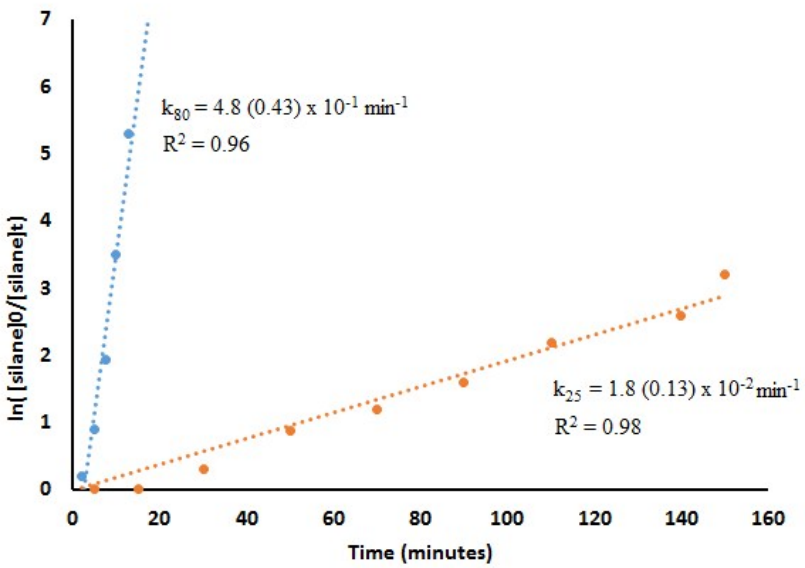

Fig. S6. Kinetic plots for hydrolytic oxidation of $MePhSiH_2$ at 25 and 80 °C, values in parenthesis represent standard deviation.

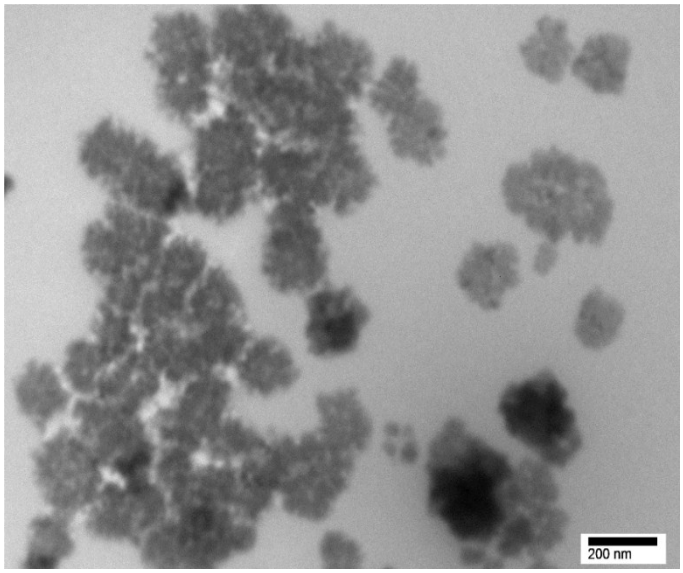

Fig. S7**.** HRTEM image of AuNPs after fourth cycle of hydrolytic oxidation of methylphenylsilane at 80 °C.

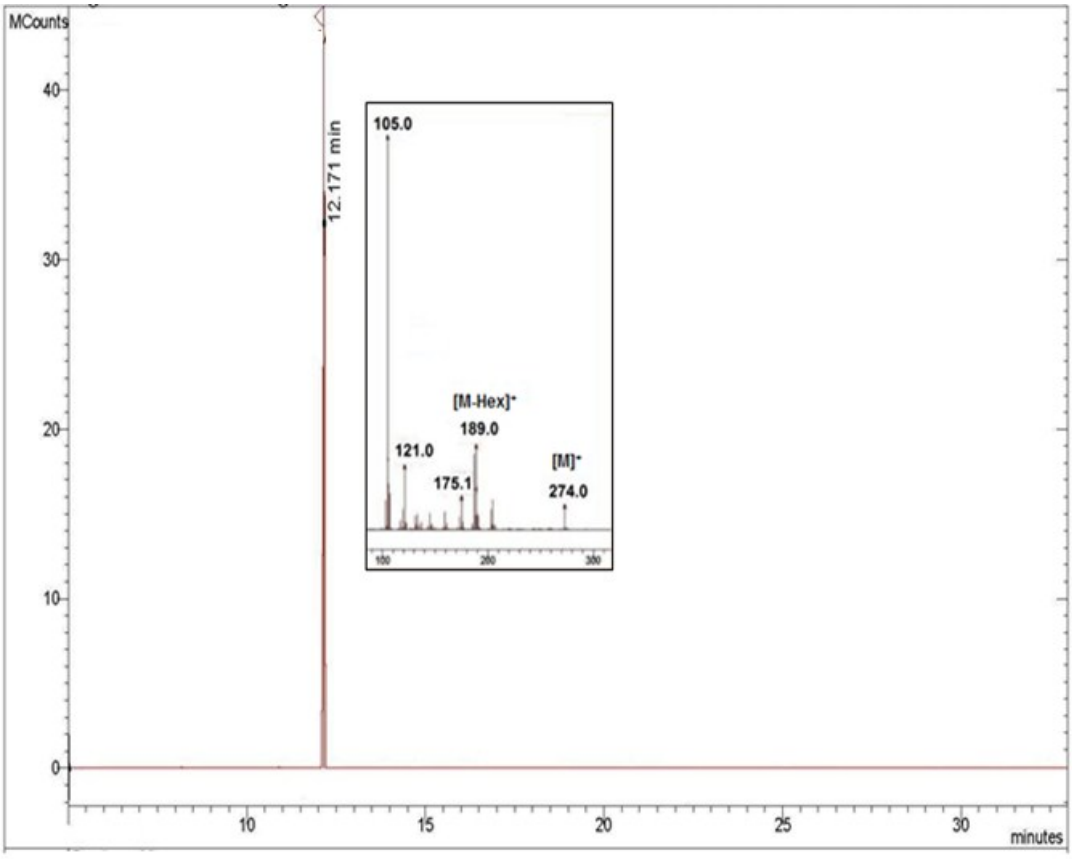

Fig. S8**.** GC-MS spectrum of {HMe(*n*-Hex)Si}$_2$O, **2**.

Table S1. Summary of crystallographic data for $(HPh_2Si)_2O$, (7).

Empirical formula	$C_{24}H_{22}O_1Si_2$
Formula weight	382.60
Temperature (K)	298(2)
Wavelength (Å)	0.71073
Crystal system	Monoclinic
Space group	P 2_1/n
a, Å	12.567(7)
b, Å	6.088(4)
c, Å	14.018(8)
α, deg	90
β, deg	95.794(16)
γ, deg	90
Volume, $Å^3$	1067.0(11)
Z	2
ρ calcd. (mg/m^3)	1.191
μ (mm^{-1})	0.177
F(000)	404
Crystal size (mm^3)	0.43 x 0.33 x 0.22
Theta range for data collection (deg)	2.075 to 25.992
Index range	-15<=h<=13, -7<=k<=7, -17<=l<=17
Reflections collected	15339
Independent reflections	2107
Absorption correction	Semi-empirical from equivalents
Max. and min. transmission	0.768 and 0.626
R(int)	0.0460
Refinement method	Full-matrix least-squares on F^2
Data / restraints / parameters	2107 / 8 / 202
Goodness-of-fit on F^2	1.050
Final R indices [I>2σ(I)]	R1 = 0.0429, wR2 = 0.1200
R indices (all data)	R1 = 0.0749, wR2 = 0.1428
Largest diff. peak and hole ($e.Å^{-3}$)	0.146 and -0.183 $e.Å^{-3}$
CCDC number	**1871681**

Table S2. Selected bond distances (Å) and bond angles (°) for $(HPh_2Si)_2O$, (**7**).

C(1A)-Si(1A)	1.857(5)
C(1B)-Si(1B)	1.860(5)
C(7A)-Si(1A)	1.866(5)
C(7B)-Si(1B)	1.870(5)
O(1)-Si(1A)	1.615(4)
O(1)-Si(1B)	1.604(5)
Si(1A)-H(1A)	1.45(3)
Si(1A)-O(1)-Si(1B)	162.2(4)
O(1)-Si(1A)-C(1A)	110.1(5)
O(1)-Si(1A)-C(7A)	109.9(4)
O(1)-Si(1B)-C(1B)	108.7(5)
O(1)-Si(1B)-C(7B)	108.4(4)
C(1A)-Si(1A)-C(7A)	103.9(6)
C(1B)-Si(1B)-H(7B)	118.6(6)

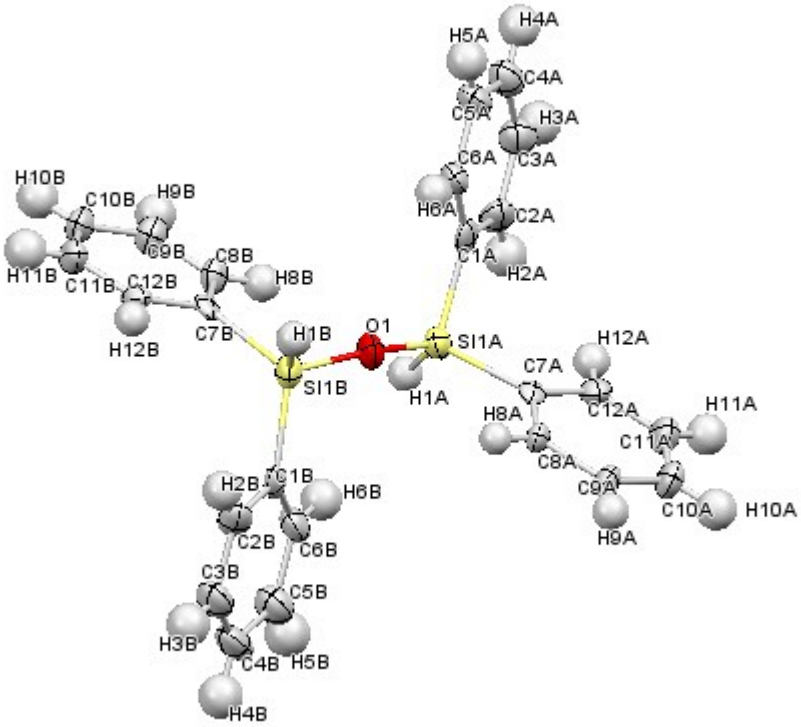

Fig. S9 ORTEP view of molecular structure (with 30 % probability factor) of **7**. Selected bond lengths (Å) and angles (°): Si1A-O1 = 1.615(4), Si1B-O1 = 1.604(5), Si1A-O1-SiB = 162.2(4).