In-situ surface engineering of mesoporous silica generates interfacial activity and catalytic acceleration effect

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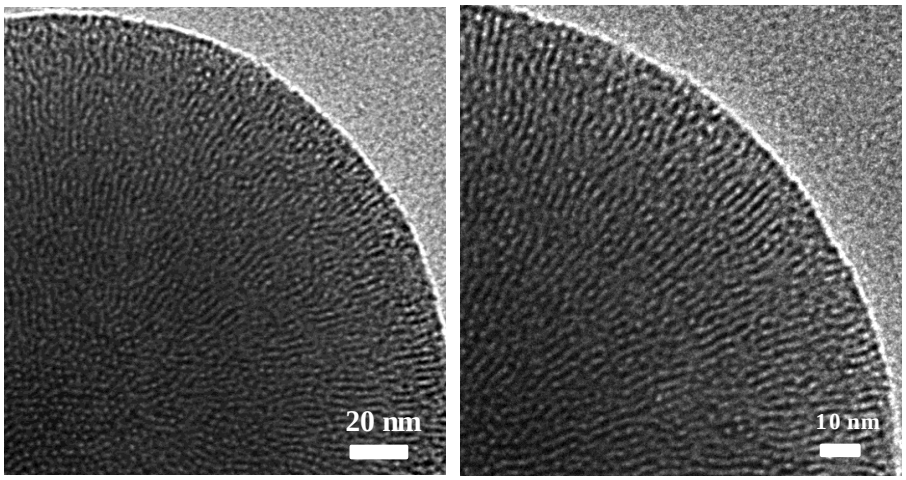

Figure S1. The HRTEM image of MS-PAP-20 microsphere.

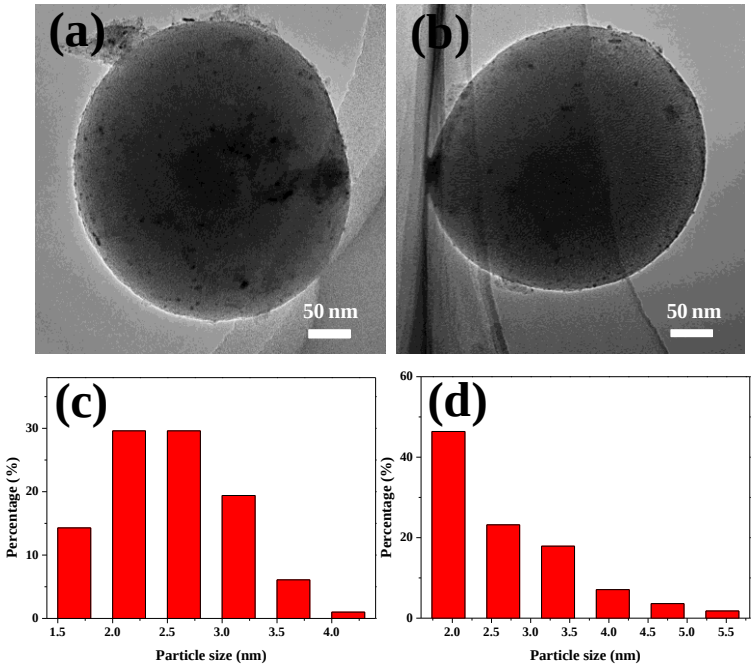

Figure S2. The TEM images of (a) Pd/MS, (b) Pd/MS-PAP-20, (c) and (d) the corresponding size distribution of Pd NPs.

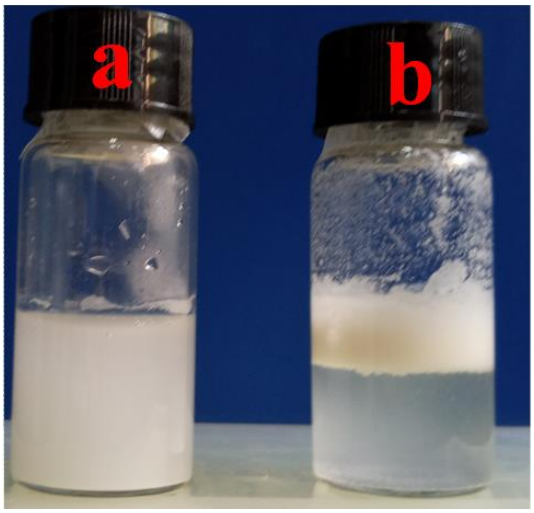

Figure S3. (a) The hydrophilic MS microsphere and (b) the relatively hydrophobic MS-PAP-20 microsphere in deionized water.

Table S1. Results of N_2 adsorption-desorption of the prepared mesoporous materials.

Sample	BET ($m^2 \cdot g^{-1}$)	Pore volume ($cm^3 \cdot g^{-1}$)	Pore size (nm)
MS	882	0.625	3.2
Pd/MS	715	0.599	3.1
MS-PAP-20	593	0.402	2.8
Pd/MS-PAP-20	244	0.264	2.5