Supplementary Information

Static Phase Transfer Catalysis for Williamson Reactions: Pickering Interfacial Catalysis

Qianqiang Zhao ^{ab}, Xiao Zhao ^{ab}, Hui Peng ^{ab}, Yang Liu ^{ab}, Lihui Yang ^{ab}, Jie Sun ^{abc}, Lei Yang ^{*ab}, Yifeng Shen ^{ab}

- ^a Key Laboratory of Advance Textile Materials and Manufacturing Technology, Ministry of Education, College of Materials and Textiles, Zhejiang Sci-Tech University, Hangzhou 310018, Zhejiang, China
- ^b Engineering Research Center for Eco-Dyeing & Finishing of Textiles, Ministry of Education, College of Materials and Textiles, Zhejiang Sci-Tech University, Hangzhou 310018, Zhejiang, China
- c. Zhejiang Province New Textile Research & Development Emphasized Laboratory, Hangzhou 310009



Figure S1. TEM image of the silica particle and Size distribution measured by light diffraction.



Figure S2. Optical micrographs of diisopropyl ketone-in-water (1:1) emulsions stabilized by mixtures of 2 wt. % silica and TBAB at different concentration taken at 5h after preparation. [TBAB] (from A to D): 2%, 4%, 6%, 8% (mol)



Figure S3. Optical micrographs of diisopropyl ketone-in-water (1:1) emulsions stabilized by mixtures of 2 wt. % silica, 5 mol % of DTAB and 5% (mol) of phase transfer catalyst taken at 5h after preparation. PTCs (from a to d): None, TEAB, TBAB, 18-Crown-6.



Figure S4. Photographs of diisopropyl ketone-in-water (1:1) emulsions stabilized by mixtures of silica and 5 mol % of DTAB for Willamism reaction, (a) reactant from left to right: p-cresol, o-cresol, 4methoxyphenol, 2-methoxyphenol, o-chlorophenol, phenol, vanillin and p-tert-butylphenol with 4-Nitrobenzyl bromide; (b) reactant from left to right: benzyl bromide, 4-(Bromomethyl)benzonitrile, 2,6-Dichlorobenzyl Bromide, 2-Nitrobenzyl bromide with p-cresol