Electronic Supplementary Material (ESI) for Nanoscale.

Electronic Supplementary Information

Colloidal Synthesis of Silicon Nanoparticles in Molten Salts

Alexey Shavel, Luca Guerrini, Ramon A. Alvarez-Puebla

Abbreviations

APTES, (3-aminopropyl)triethoxysilane;

APTMS, (3-aminopropyl) trimethoxysilane;

TEOS, tetraethyl orthosilicate,

TMOS, Tetramethyl orthosilicate;

HSQ, silsesquioxane;

HDA, hexadecylamine;

TOA, Trioctylamine;

DMF, N,N-dimethylformamide;

NMP, N-Methyl-2-pyrrolidone;

DMSO, dimethyl sulfoxide.

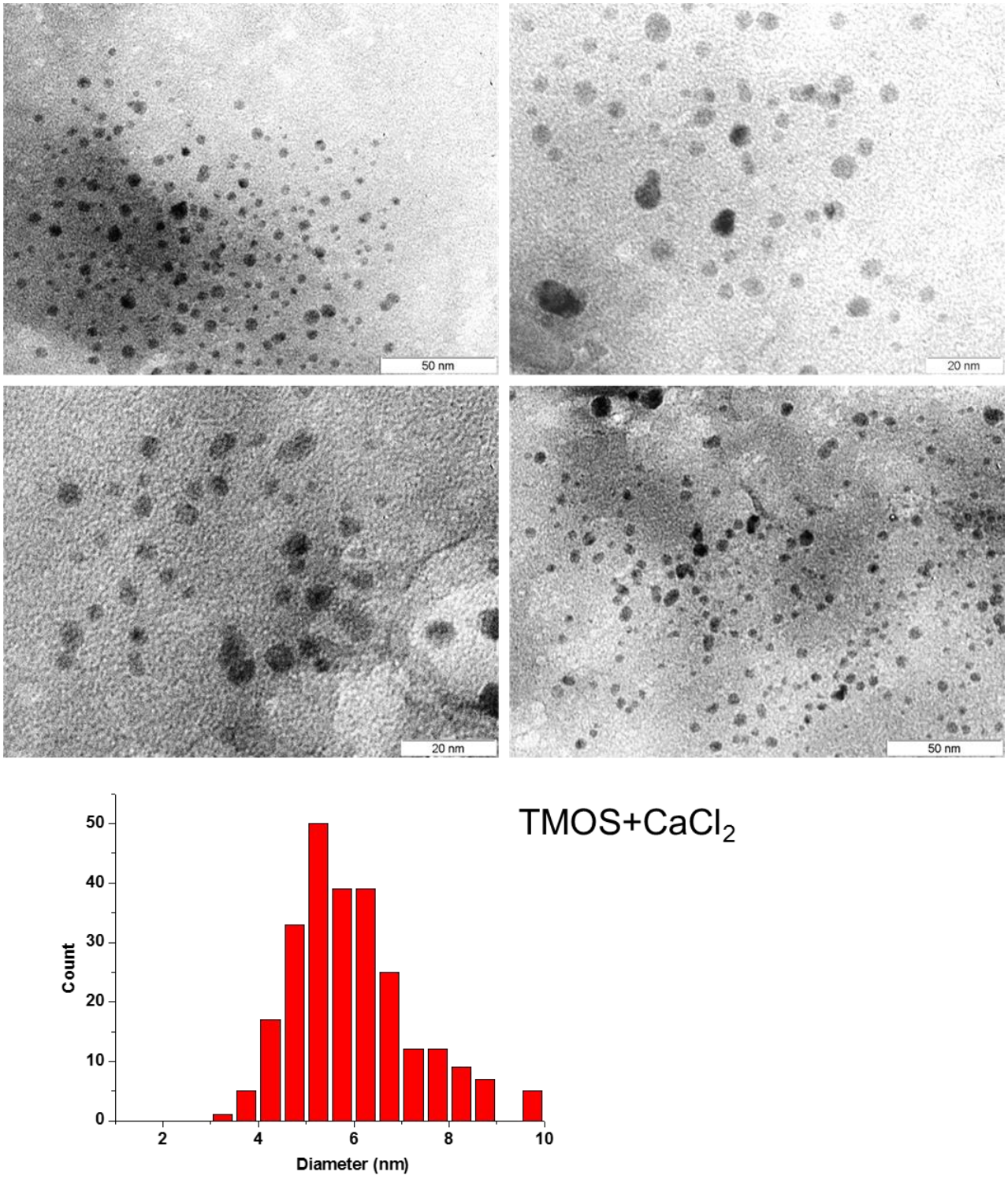

Figure S1. TEM images of the Si NPs prepared from TMOS + $CaCl_2$, and histogram of nanoparticle diameters (6.2±1.6 nm). A total of 266 particles have been measured.

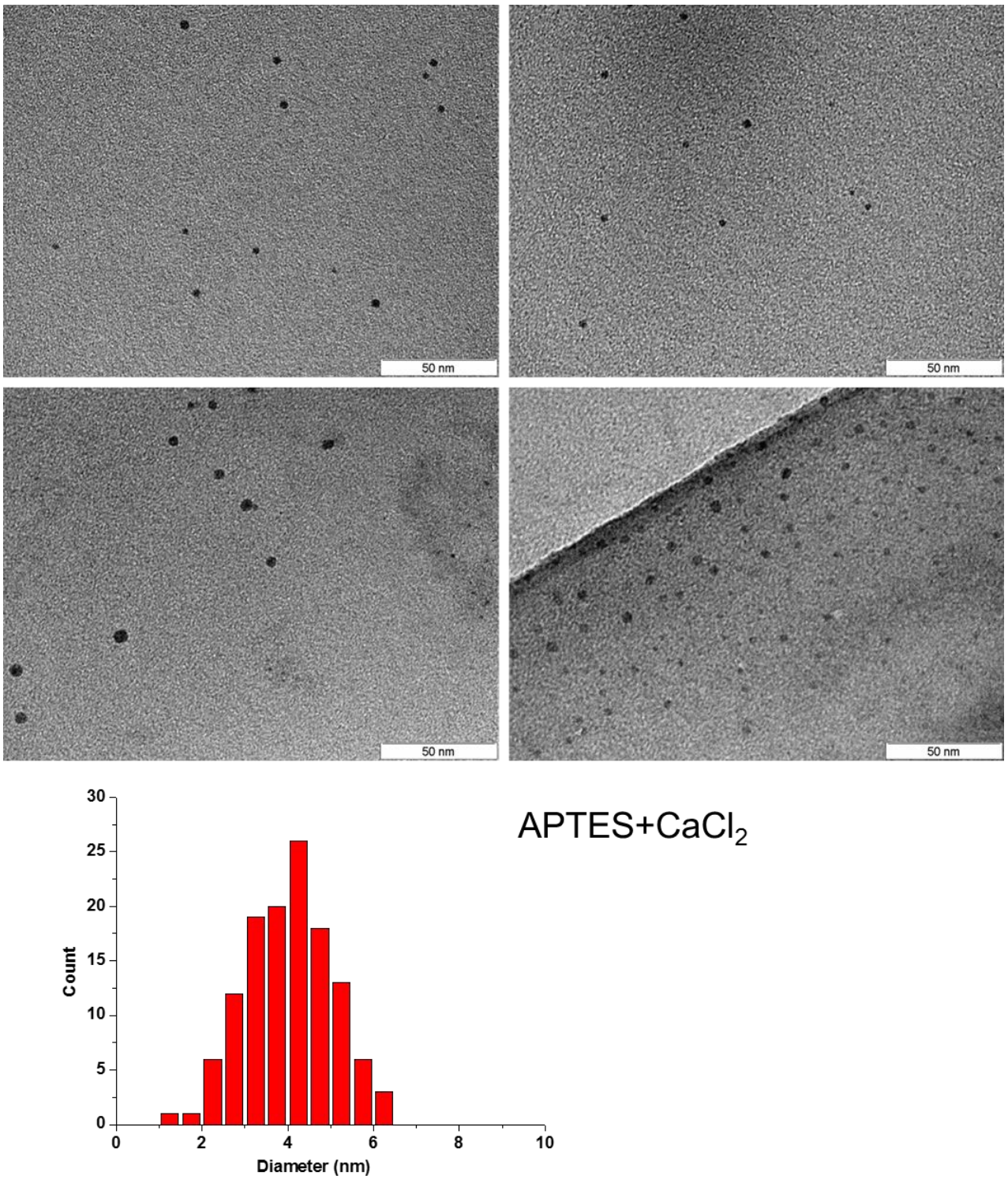

Figure S2. TEM images of the Si NPs prepared from APTES + $CaCl_2$, and histogram of nanoparticle diameters (4.0±1.0 nm). A total of 125 particles have been measured.

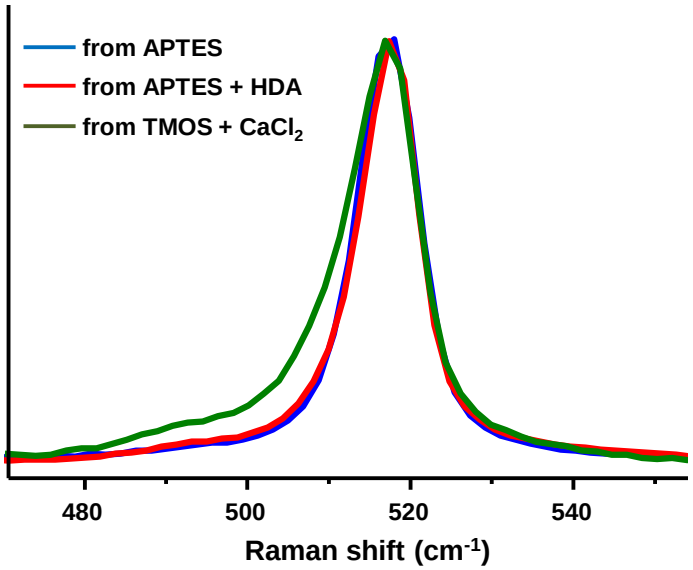

Figure S3. Raman spectra of the solid samples in the 460-570 cm^{-1} spectral region (Ex. 532 nm).

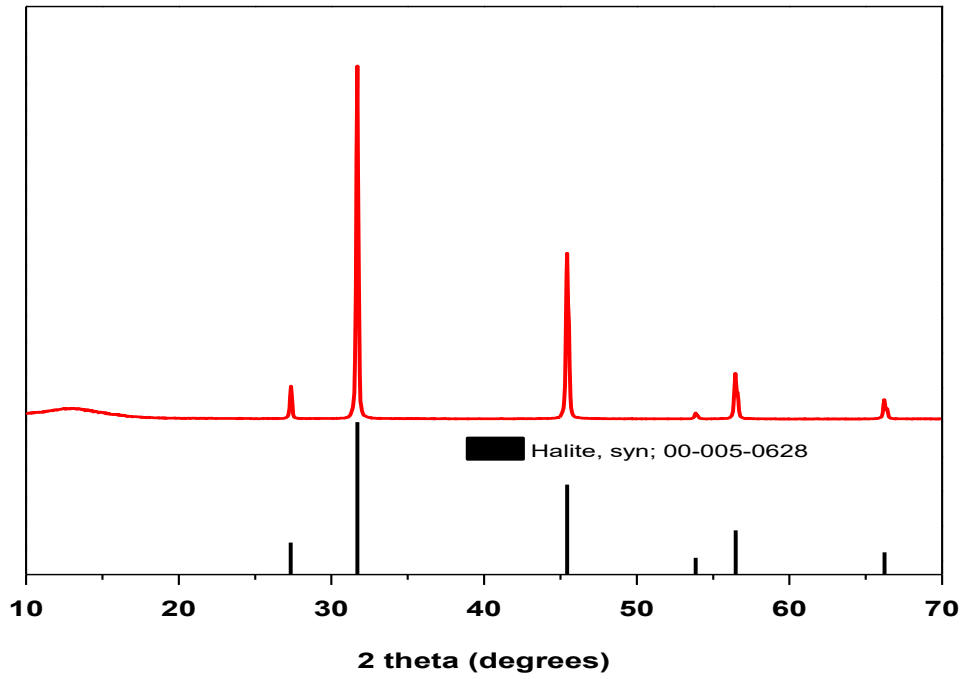

Figure S4. XRD pattern of the insoluble part of the synthesis.

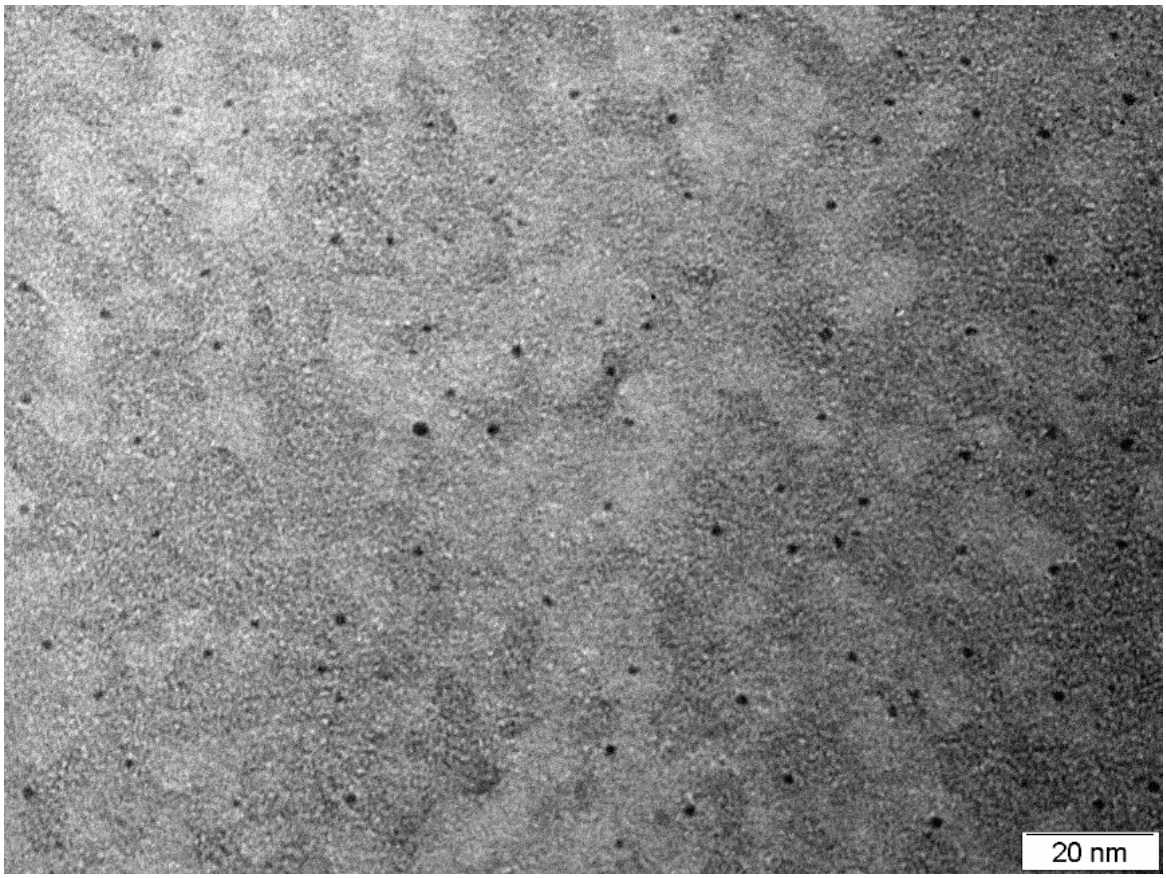

Figure S5. TEM image of the silicon nanoparticles after cleaning in the solution of the NaOH, 0.33M.

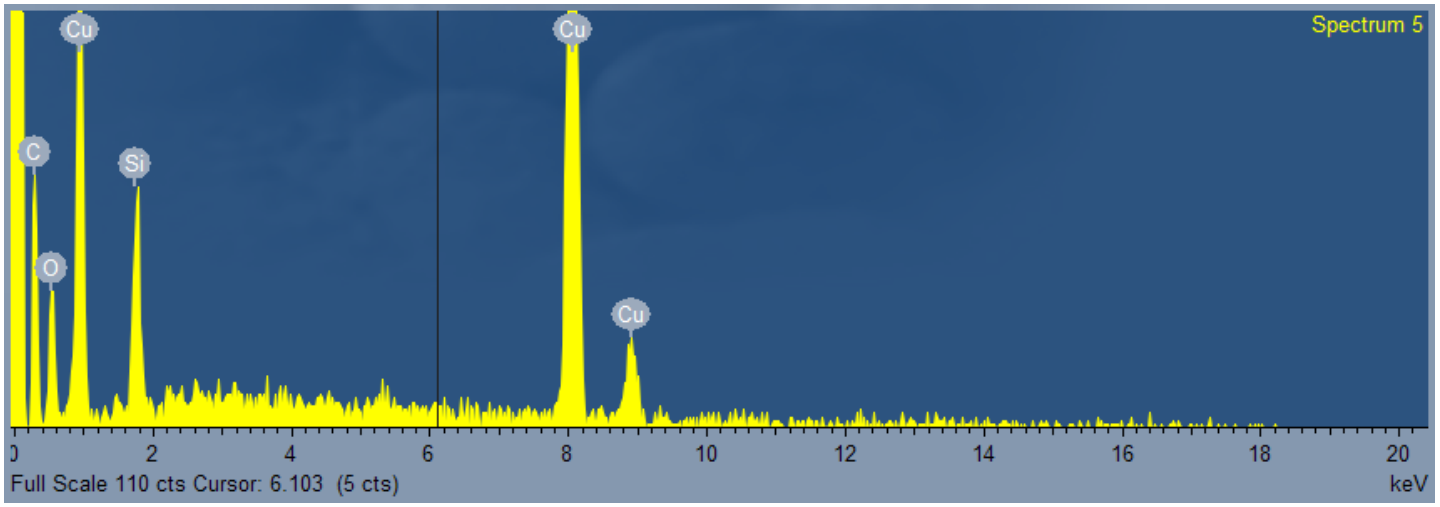

Figure S7. SEM EDX spectrum of the small silicon nanoparticles. Sample was drop casted from DMF solution.