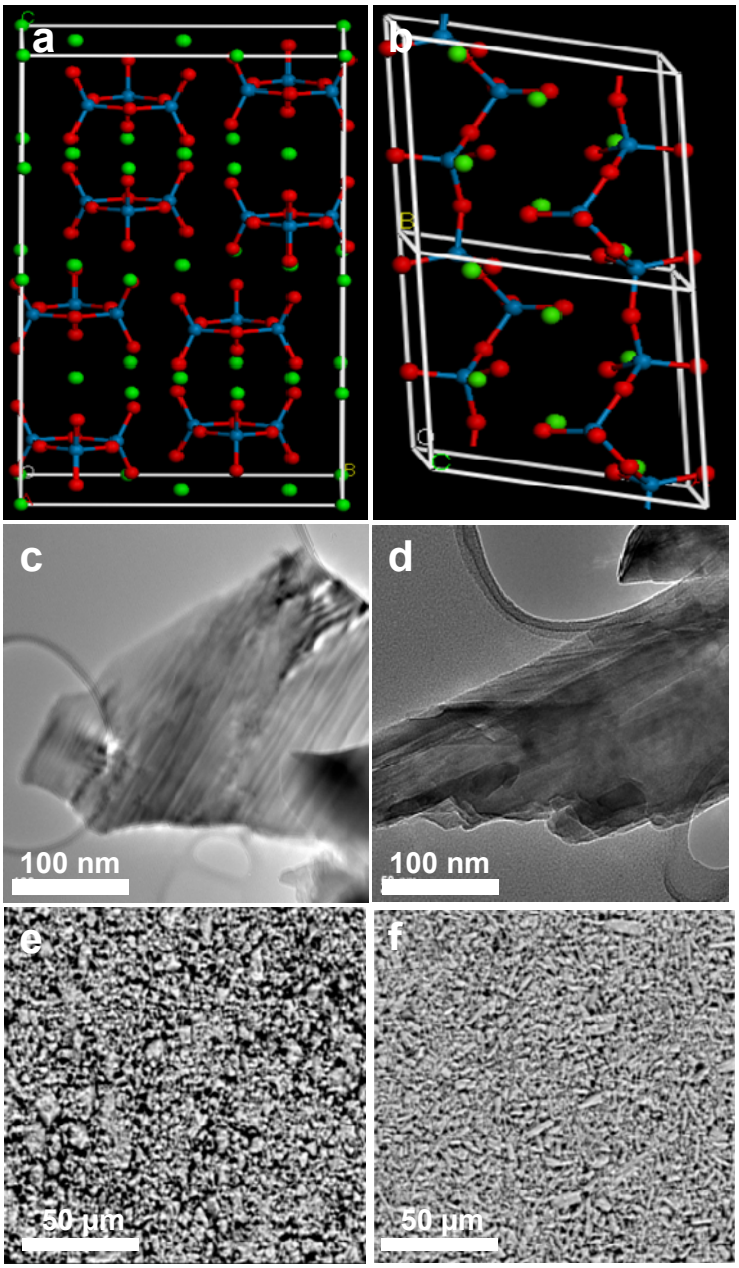
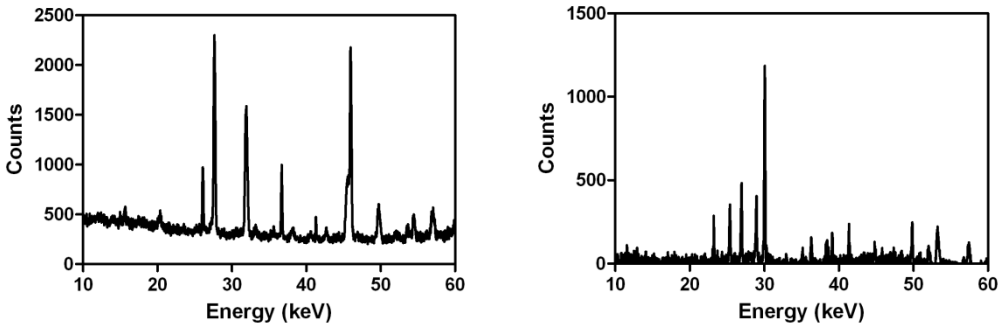
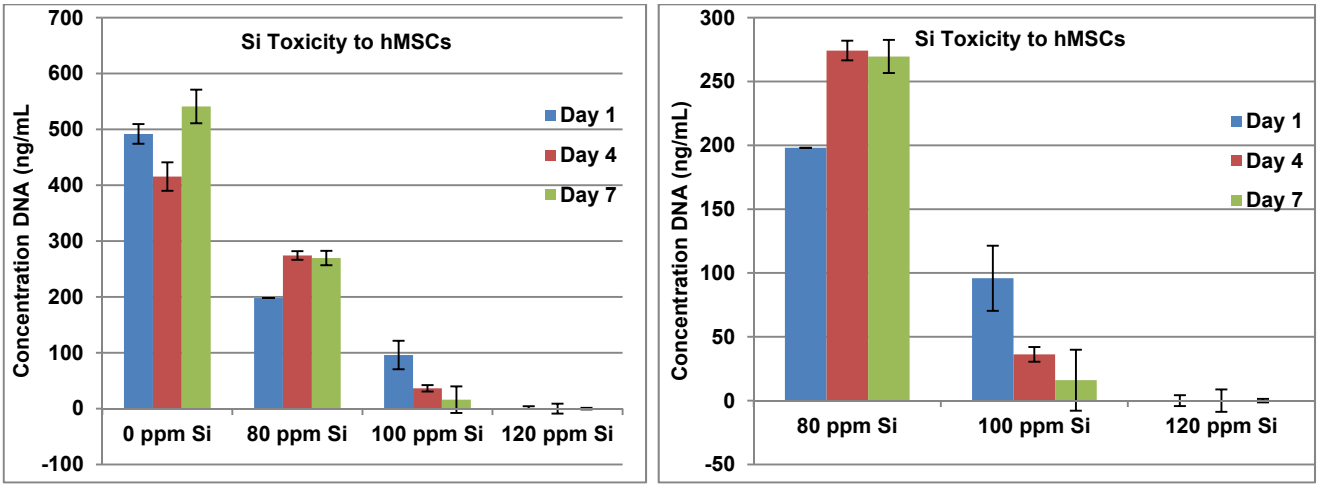
Supplementary Information



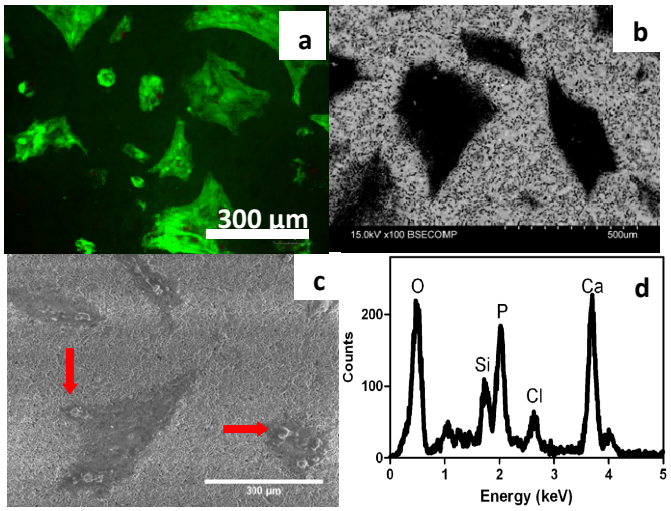
S. I. Fig. 1. Material characterization of psw (left column) and wol (right column) from atomic to micron scale. a-b, schematic of crystal structure, where O = red, Si = blue, Ca = green, c-d, HRTEM images, and e-f, SEM backscatter electron images. Legend for atoms in a,b:



S. I. Fig. 2. X-ray powder diffraction pattern of psw (left) and wol (right) after high temperature sintering.



S. I. Fig. 3. Left figure shows cell viability expressed as total DNA at different silica concentrations including control (0 ppm Si). Right figure is an enlargement showing the results for 80-120 ppm silica concentrations to emphasize the tremendous decline in toxicity from 120 ppm to 100 pm to 80 ppm (Seeding density was 10,000 cells.cm-^{2} in growth medium).



S. I. Fig. 4. Fluorescence microscopy images (a) of cell patches formed on pseudowollastonite after 12 days cell culture; SEM images of cell patches (b, c) were found to have similar size. Images were taken with backscatter electron detector (1b) and environmental secondary electron detector (1c); SEM-EDX for bone nodule in 1c (red arrow) indicating presence of calcium and phosphate in the nodule plus Si from the bioceramic. (from Zhang et al., 2010).