Figure 1. Cleaned pollen adhesion force on silicon versus feature size ratio. A very light linear trend from which a constant k, a, is estimated.

Figure 2(a) Scanning electron micrograph of non-coated dandelion pollen on a surface after 10 min, revealing formation of a liquid meniscus.

Figure 2(b) Optical micrograph showing incident dielectric dandelion pollen, after poling, on a bare silicon surface (a 1×5).

Figure 3. SEM images of sunflower pollen particles at various stages of conversion with SiO2 in the form of a natural grain, (b) an Fe-coated grain after SiO2 deposition cycle, (c) in nanoindentation tests of the same grain in panel b after the deposition cycle, (d) a 100-nm-thick silicon nitride layer, and (e) a 400-nm-thick replica of the same nanoindentation test.

Figure 4. (a) AFM images of representative pollen samples prepared using various solvents: (1) THF/CHCl3, (2) ethanol/THF, (3) chloroform/THF, (4) acetone/THF, (5) THF/C, (6) chloroform/C, (7) ethanol/C, (8) CHCl3/C, and (9) C. (b) Cross-section of the pollen samples cast from a 10% solvents.

Figure 5. SEM images of particles of pollen coated with the polymer PCL: (a) neat, (b) polymer/PCL composite (99 vol% polymer, 1 vol% PCL), (c) polymer/PCL composite (95 vol% polymer, 5 vol% PCL), and (d) polymer/PCL composite (90 vol% polymer, 10 vol% PCL). The labels on the x-axis indicate the percentage of polymer in the composite.