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Special Issue Reprint

Synthesis and Applications of Nanomaterials

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This Special Issue on “Synthesis and Applications of Nanomaterials” has ten contributions covering a wide range of nanomaterials, their preparation and application. The contributions are diverse both in the type of nanomaterial studied and the application; however, a few significant themes have emerged from the collection. Studies cover nanoparticles, including those of metal oxides, cellulose, organic self-assemblies, and novel layered double hydroxides. Some of the studies are focused on nanostructured surfaces including how nanoparticles can polish a metal surface and how nanoscale features affect surface wear. The use of green methods for nanoparticle preparation has emerged, perhaps unexpectedly, as a recurring theme and so has the application of such nanoparticles in environmental remediation. The detailed characterization of the systems studied employs methods such as scanning electron microscopy, infrared and visible spectroscopy, and X-ray diffraction to elucidate structure in detail. Details of nanostructured surfaces are found to greatly influence their surface mechanical properties.

