66e Synthesis of Iron Oxide Nanoparticles in Counterflow Diffusion Flame Reactor

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The objective of this research is to systematically study the formation and restructuring of iron oxide nanoparticles in gas phase synthesis. We have used a specially designed counterflow diffusion flame (CDF) reactor to investigate the conditions for the formation of iron oxide nanoparticles, especially their shape formation mechanisms under controlled chemical and thermal environments. The iron oxide nanoparticles are fully characterized with transmission electron microscopy and X-ray diffraction. Detailed results will be reported in this presentation.