Poster Presentation

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Alkaline-earth coordination polymers:photoluminescence and dielectric properties

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There is considerable interest in seeking new dielectric materials due to their potential applications in modern electronic devices such as memory elements, high performance insulators and resonators.1 Search for new dielectric materials still poses formidable challenge owing to stringent permittivity requirements imposed by operative frequency, power levels, types of application and stability.2 Recently, CPs/MOFs are being sought as low dielectric constant (low-κ) materials for interlayer dielectrics with high thermal stability, electrically insulating property.3 Alkaline-earth metal coordination polymers are promising candidates for exploring dielectric and ferroelectric properties. Since the framework lacks positional freedom, dielectric constants of these solids are expected to be very low and mostly arise from mobile solvent molecules and polarizability of the organic linkers. In this work, we attempted to explore the structural landscape of calcium or strontium based dicarboxylates under solvothermal condition with an objective was to study the influence of selected aromatic dicarboxylic acid based ligands and polar aprotic solvents in dictating the crystal structures of the final solids. In this poster, we report crystal structure, photoluminescence and dielectric properties of several new alkaline-earth CPs.

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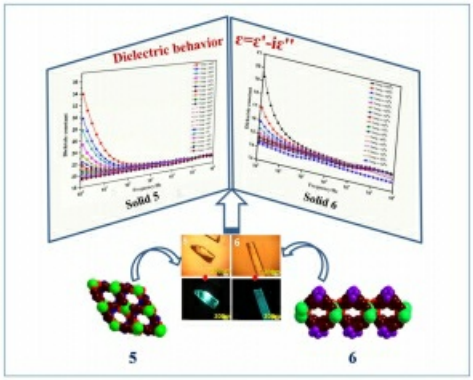

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