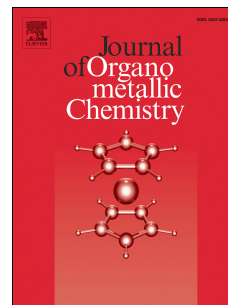


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Synthesis and characterization of multifunctional homochiral 1-D aminoacetic acid potassium metal organic framework

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Abstract

The multifunctional homochiral aminoacetic acid potassium (AAAP) metal organic framework was synthesized and grown by hydrothermal technique. The structural arrangement can be described by alternating organic and inorganic layers which are constructed as 1D infinite chain along the *b* direction. These building blocks are cross linked further by nearest metal ions formed 1D tunnels like a framework also. Functional moieties exist in AAAP were analyzed by FT-IR spectral analysis. The optical constants like; optical band gap, absorption coefficient, extinction coefficient and refractive index were calculated using UV-Vis-NIR absorption spectrum. DSC study shows that compound stable upto 250 °C. The dielectric constant and dielectric loss of the crystal were calculated as a function of frequency at room temperature, and the results are discussed. The piezoelectric charge coefficient (d_{33}) and voltage coefficient (g_{33}) were found. The nonlinear efficiency was determined by the Kurtz and Perry powder technique and the obtained value is 1.38 times that of KDP. BET analysis reveals the specific surface area of grown crystal is 104 m²/g and pore size distribution plot display the mesoporous nature. Thus,

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