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Title:	Structural Diversity in Heterobimetallic Complexes of Alkaline Earth Metals and Molybdenum, and Selective Dye Adsorption Properties of Mixed Metal Oxides Synthesized from the Heterobimetallic Complexes
Authors:	Das, Dhiraj (/jspui/browse?type=author&value=Das%2C+Dhiraj)
Keywords:	Complexes Metal Heterobimetallic
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Publisher:	Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim
Citation:	ChemistrySelect,4(4),pp. 1428-1436.
Abstract:	Four heterobimetallic complexes of group 2 metal (Mg^{2+} , Ca^{2+} , Sr^{2+} , and Ba^{2+}) and molybdenum metalloligand ($[Mo_2O_5L_2]^{2-}$ { $H_2L=2-(3\text{-tert-butyl-2-hydroxy-5-methoxybenzylamino})acetic\ acid$ }) have been synthesized and structurally characterized by single crystal X-ray diffraction. The size-dependent structural diversity has been observed. The coordination number of alkaline earth metal has gradually been increased from hexacoordinate to octa-coordinate and as a result, we are able to get monomer to dimer to one-dimensional (1D) coordination polymer. The lattice water molecule further connects two 1D chains and generated a two-dimensional (2D) network. The heterobimetallic complexes afford mixed-metal oxides of the type $MMoO_4 \cdot MoO_3$ ($M = Mg^{2+}$, Ca^{2+} , Sr^{2+} , and Ba^{2+}). The dye and gas adsorption properties of the mixed metal oxides have been studied. They exhibit selective cationic dyes adsorption from the mixture of anionic and cationic dye.
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