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## A new heterometallic heptanuclear [K4ICr3III] hybrid material: Synthesis, characterization and magnetic properties

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Nowadays, one of the most intensive investigation subject in field of materials science is organic-inorganic salts(OIHSs) of owing to their intriguing aesthetic structures and their numerous potential applications as poly-functional materials [1]. With respect to the very large number of homometallic oxalatometalate(III) salts, the heterometal oxalato-bridged complexes have been much less explored, given the difficulty in controlling the resulting heterometallic arrays[2]. Well-known examples are the 2-D MOFs formulated as (A)[MII/IMIII(ox)3]2-/1- that have been extensively investigated as molecular magnets[3]. Therefore, our interest in this field is a fundamental requirement for gaining some insight into the structural features and the magnetic trend associated with heteropolynuclear oxalato-bridged complexes containing pyridinium derivatives as counter cations. A new heteroheptanuclear oxalato-bridged [K4ICr3III] hybrid salt, (C6H9N2)3[K4Cr3(C2O4)8(H2O)2,5] (1) (C6H9N2+ = 2-amino-3-methylpyridinium cation) has been synthesized using methatensis reaction strategy. It has been characterized by elemental and thermal analyses, IR spectroscopy, single-crystal X-ray diffraction, EPR and variable temperature magnetic susceptibility measurements.

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