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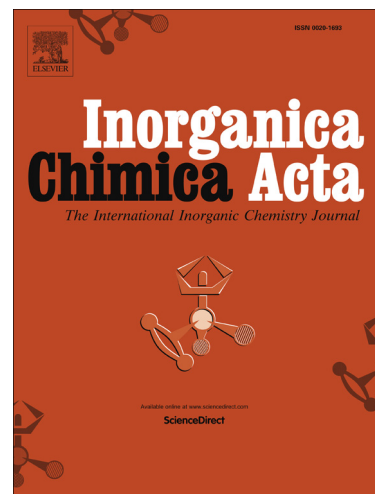
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**A NEW SYNTHETIC ROUTE FOR COMPOUNDS PREPARED FROM KEGGIN  
HETEROPOLYACIDS AND PYRIDINE DERIVATIVES**

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**Abstract:**

The synthesis of inorganic/organic hybrid compounds by solid-solid reactions of the hydrated heteropolyacids  $H_3[PM_{12}O_{40}] \cdot nH_2O$  ( $M = Mo, W$ ) with selected substituted pyridines having different sizes and functionalities is described. Several new compounds were prepared at room temperature and characterised by infrared and UV/vis absorption spectroscopies, powder X-ray diffraction and analytical techniques. Related materials prepared by precipitation from solution were also studied and the comparison was made between results obtained with the different preparative procedures. This is the first systematic account on the acid-base reaction of solid heteropolyacids and solid pyridine derivatives, without the addition of any solvent. The obtained results indicate that the obtained crystalline powders may present physical properties different from related materials prepared by precipitation from solution.

**Keywords:**

Polyoxometalates; Keggin; Heteropolyacids; Pyridine derivatives; Solid-solid reaction; Mechanochemistry

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