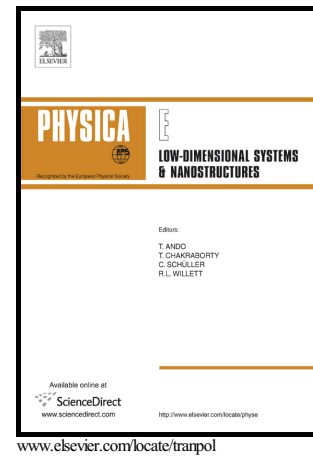


Multimodal Transportation Infrastructure
Investment and Regional Economic Development:
A Structural Equation Modeling Empirical Analysis
in China from 1986 to 2011

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**Structural characterization and physicochemical features of a new arsenate salt
templated by mono and di-protonated 4-aminopyridine cations:**



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Abstract

Single crystals of a new organic–inorganic hybrid compound, with the formula (4-APH)(4-APH₂)[AsO₄].H₂O, was synthesized at room temperature by slow evaporation method and characterized by X-Ray diffraction at 150 K, DSC–TG measurements, FT-IR and Raman spectroscopies. The title salt, (C₅H₇N₂)(C₅H₈N₂)[AsO₄].H₂O, contains mono and diprotonated 4-aminopyridine cations, an arsenate trianion and one water molecule. The diprotonated 4-ammoniumpyridinium dication [C₅H₈N₂]²⁺ is disordered over two positions with refined site occupancies of 0.73 and 0.27 however the monoprotonated 4-aminopyridinium cation [C₅H₇N₂]⁺ is ordered. The 4-aminopyridinium rings are essentially planar and occur in stacks along *b* axis. In the crystal, the As^{III} atom is coordinated by four O atoms in a slightly distorted tetrahedral geometry. The arsenate O atoms link the 4-aminopyridinium cations and water molecules into a three-dimensional network via intermolecular O–H···O and N–H···O hydrogen bonds. Additionally, in this structure, the different types and the nature of aromatic–

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