Synthesis and Crystal Structure of \( \text{bis}(3,3',5,5'-\text{tetramethyl benzidinium}) \)
\( \text{bis}(\text{pyridine-2,6-dicarboxylato}) \) \( \text{nickelate(II)} \) \( \text{monohydrate} \)

J. Soleimannejad\(^1\), S. Sedghiniya\(^1\), M. Nasibipour\(^2\)

1- School of Chemistry, College of Science, University of Tehran, P.O. Box 14155-6455, Tehran, Iran
2- Department of Chemistry, College of Science, University of Shiraz, P.O. Box 71454, Shiraz, Iran

(Received: 14/12/2016, in revised form: 18/2/2017)

Abstract: The compound of \((\text{Htm}b)_2[\text{Ni(pydc)}_2] \cdot \text{H}_2\text{O} \) \( (1) \) (In that \( \text{tm}b \) and \( \text{pydc} \) are \( 3,3',5,5' \)-\text{tetramethyl benzidine} and \( \text{pyridine-2,6-dicarboxylic acid} \), respectively) was synthesized via the proton transfer method and the structure was determined by single crystal X-ray diffraction. This compound crystallized in monoclinic crystal system and \( C2/c \) space group. In the asymmetry unit of compound \( 1 \), there are half molecule of the \([\text{Ni(pydc)}_2]\)\(^2-\) anionic complex, one protonated molecule of \( 3,3',5,5' \)-\text{tetramethyl benzidine} as a counter ion and half of an uncoordinated water molecule. Extensive intermolecular N-H…O and O-H…N, hydrogen bonds along with \( \pi \ldots \pi \) and C-H …\( \pi \) interactions contribute in self-assembly and formation of a novel supramolecular structure.

Keywords: Proton transfer compounds, pyridine-2,6-dicarboxylic acid,\( 3,3',5,5' \)-\text{tetramethyl benzidine}, crystallography, crystal structure.