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# Synthesis and complexation properties of a new 2-aminoalkylamino-4,5-dihydroxypyrimidine chelator

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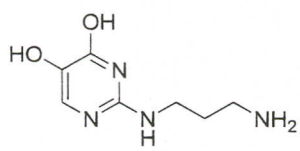
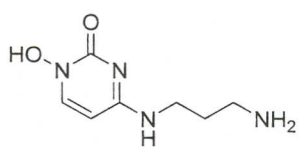
The hydroxypyrimidinones are *N*-hydroxyamide-containing heterocycles with high affinity for hard metal ions and some recent research has been focused on their potential application as toxic metal decontaminants for environmental and biological/pharmacological purposes.[1]

In the last few years we have developed several 4-aminoalkylamino-1-hydroxy-2(1*H*)-pyrimidinone ligands, which proved to be good chelators for hard metal ions ($Fe^{3+}$, $Al^{3+}$, $Th^{4+}$), either as monomeric species or as polymeric species, as result of monomer attachments to solid supports via the bearing alkylamine group.[2,3]

As part of an ongoing project on supported chelating agents, we aim to extend our previous research to the design of new hydroxypyrimidinone analogues with improved water-stability and potential as metal decontamination agents of aqueous fluids, either as free ligands or supported in insoluble solid matrices. So, herein we describe the synthesis and characterization of a new chelator, 2-(3-aminopropylamino)-4,5-dihydroxypyrimidine (I), namely its acid-base properties and its complexation behavior towards Fe(III) and Al(III) involving potentiometric and spectroscopic techniques.




(I)




(II)

Discussion of the obtained results is mostly based on comparison with those of previously developed 1-hydroxy-2(1*H*) pyrimidinone chelators (II).

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**References**

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