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POTENTIOMETRIC AND NMR STUDY OF AMINOALKYLPHOSPHINIC ACIDS AND THEIR COMPLEXING PROPERTIES

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Ethylenediamine-tetrakis- [methylene(phenylphosphinic)] acid, piperidine [methylenephosphinic] acid and piperazine-bis- [methylenephosphinic] acid have been prepared by the method of Plaza and Grim¹ and Maier². Their dissociation constants and stability constants with Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} and Ni^{2+} have been determined. Study of the dependence of the 1H , ^{31}P and ^{13}C NMR spectra of solutions of the acids mentioned above on the pH indicates similarity to amino acids than to analogous phosphonic acids.

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2. Maier L.: Helv.Chim.Acta 50, 1742 (1967)