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2-Hydroxyphenylphosphinic Acid: P-Analogue of Salicylic Acid?

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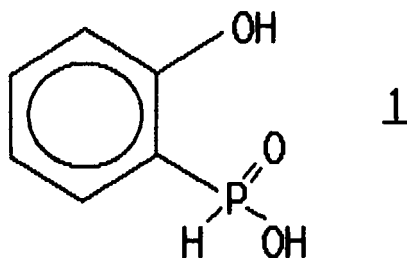
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2- Hydroxyphenylphosphinic Acid: P-Analogue of Salicylic Acid?

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Substitution of the carboxyl group $-C(O)OH$ by $-P(O)(OH)_2$ and $-P(O)R(OH)$ leads to compounds of interest to agriculture, technics and pharmacology. Under these aspects the P-analogue **1** of salicylic acid was prepared, because the monobasic $-P(O)H(OH)$ group resembles more the carboxyl function than the dibasic moiety $-P(O)(OH)_2$.

Synthesis, properties and crystal structure ($Pna2_1$, $Z = 8$, $a = 2113.7$ (3), $b = 1472.7$ (3), $c = 457.8$ (1) pm) of 2-hydroxyphenylphosphinic acid **1** are reported.



The similarities between **1** and salicylic acid are discussed on the basis of different physical data, e.g. the pK_s -values and the pH dependence of the stability constants of Fe^{3+} -complexes. In solid state, however, the phosphinic acid **1** shows only intermolecular hydrogen bonding in contrast to the well known intramolecular H-bonds in salicylic acid.