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### Alkaline Hydrolysis of the Cytostatic Drug, Ifosfamide, and its N-Dechloroethylated Metabolites

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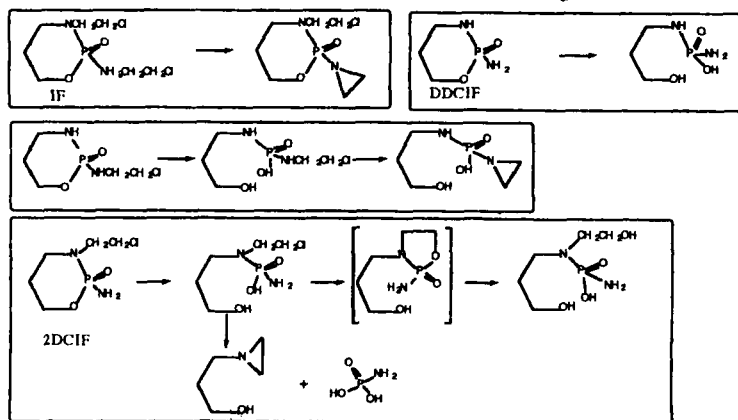
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## Alkaline Hydrolysis of the Cytostatic Drug, Ifosfamide, and its N-Dechloroethylated Metabolites

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Ifosfamide (IF) is an alkylating antitumor agent used in the treatment of solid tumors. Up to 50% of IF administered to patients undergoes an oxidative N-dealkylation reaction resulting in the loss of one, other or both chloroethyl side chain(s) to produce 2- or 3-dechloroethylIF (2DCIF, 3DCIF) or 2,3-didechloroethylIF (DDCIF). The hydrolytic pathway of these four oxazaphosphorines has been studied earlier but only at acidic and neutral pHs<sup>[1]</sup>. In the present work, we monitored their time courses of hydrolysis at basic pHs using phosphorus-31 NMR. The structures of the compounds formed were determined by NMR (<sup>13</sup>C and <sup>1</sup>H) and mass spectrometry. The results are reported in the following scheme.



### References

- [1] V. Gilard, M. Malet-Martino, R. Martino, U. Niemeyer, *PSSI*, 77, 200 (1993). (Supported by ARC, grant 6635).