

## **$\alpha$ -Amino acetals containing a phosphonate or phosphine oxide group. Synthesis and reactions with resorcinols**

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### **Abstract**

New  $\alpha$ -amino acetals containing a phosphonate or phosphine oxide group were synthesized by the Kabachnik-Fields reaction in the ternary system amino acetal-paraformaldehyde-dialkyl phosphonate (or dialkylphosphine oxide). Condensation of dialkyl (2,2-dimethoxyethylamino)methylphosphonates with resorcinol and its derivatives in ethanol in the presence of hydrochloric acid, apart from the corresponding 2,2-bis(polyhydroxyphenyl) ethylammonium salts, gave 2,5-bis(polyhydroxyphenyl)-1,4-bis[(dialkoxyphosphoryl)methyl]-piperazines. Dialkyl[(2,2-dimethoxyethylamino)methyl]phosphine oxides (Alk = C<sub>8</sub>H<sub>17</sub>, C<sub>10</sub>H<sub>21</sub>) did not react with resorcinol derivatives under similar conditions, and analogous ammonium salts were obtained by heating the reactants in boiling trifluoroacetic acid. © 2014 Pleiades Publishing, Ltd.

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