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**Сборник тезисов  
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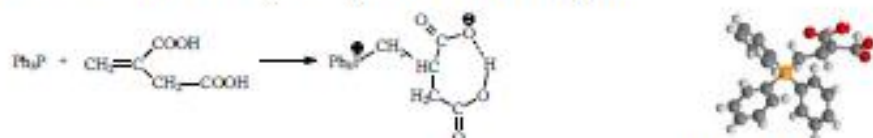
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## CARBOXYLATE PHOSPHABETAINES ON THE BASIS OF ITACONIC ACID

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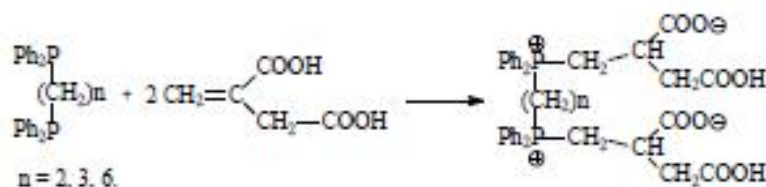
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Itaconic acid easily reacts with tertiary phosphines on the mechanism of nucleophilic addition. In this work we obtained dicarboxylated phosphobetaine on the basis of a triphenylphosphine, which structure has been confirmed by X-ray diffraction analysis.



Picture 1. 3-carboxy-2-  
((triphenyl-  
phosphonio)methyl)propanoate

Bis(diphenylphosphino)alkanes also react with Itaconic acid to form betaines with four carboxyl groups.



All newly synthesized compounds were characterized by elemental analyses, IR,  $^1\text{H}$  NMR,  $^{13}\text{C}$  NMR and  $^{31}\text{P}$  NMR spectral studies.

Table 1. Physical data for the tetracarboxylate phosphobetaines

n	M.p., °C	IR, $\text{cm}^{-1}$ COO <sup>-</sup> , COOH	NMR $^{31}\text{P}$	Solubility
2	202	1588, 1712	28.1 7	H <sub>2</sub> O, EtOH, CH <sub>3</sub> CN
3	120	1588, 1715	26.0 0	H <sub>2</sub> O, EtOH, CH <sub>3</sub> CN
6	133	1588, 1714	26.5 6	H <sub>2</sub> O, EtOH, CH <sub>3</sub> CN

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