

## Syntheses and crystal structures of three electron poor *N*-vinyltheophylline derivatives.

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### Streszczenie

Protonation of the highly reactive 1:1 intermediates, produced in the reaction between triphenylphosphine and alkyl acetylenecarboxylates (or dialkyl acetylenedicarboxylates) by theophylline leads to vinyltriphenylphosphonium salts, which undergo Michael addition reaction with conjugate base to produce phosphorus ylides. Silica gel was found to catalyze conversion of the phosphorus ylides to electron-poor *N*-vinyl imidazoles in solvent-free conditions under thermal (90 °C, 1 h) conditions. The structures of these compounds were confirmed by IR, <sup>1</sup>H, and <sup>13</sup>C NMR spectroscopy, and single crystal X-ray structure determination. The structural analysis of the products indicated that the reaction is completely regio- and stereoselective.

### Słowa kluczowe

Silica gel, Theophylline, Acetylenic esters,  
Vinyltriphenylphosphonium salts, crystal structure, *N*-Vinyl  
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