

The Acylation of Aromatic Compounds by Anhydrides Using Preyssler's Anion ($\text{NaP}_5\text{W}_{30}\text{O}_{110}$)¹⁴⁻ and Heteropolyacids as Green Catalysts

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Abstract: The Preyssler, Wells-Dowson and Keggin heteropolyacids are efficient and eco-friendly solid acid catalysts for the acylation of electron-rich aromatic compounds with acid anhydrides. The performance of different forms of heteropolyacids was compared. In all cases, the best results were obtained using the Preyssler heteropolyacid as the catalyst. In the presence of 25 mol% (with respect to H⁺ equivalency) Preyssler catalyst, highly *para*-selective acetylation of anisole occurs using two equivalents of acetic anhydride, in 15 min at room temperature. The isolated yield of the *p*-methoxyacetophenone product is 98%.

Keywords: *Acylation; Preyssler; Anhydride; Heteropolyacids; Catalyst; Aromatic compounds*

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