Poster Presentation P27

IRON (III) TOSYLATE CATALYZED SYNTHESIS OF ACYLALS (1,1-DIESTERS) FROM AROMATIC ALDEHYDES

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Acylals (geminal diesters) are often used as protecting groups for carbonyl compounds because they are stable under various conditions and can easily be converted back to the original compound. They are also useful intermediates in organic synthesis. Many of the catalysts used for their synthesis are moisture and air sensitive, toxic and expensive. Our continued interest in environmentally friendly organic synthesis prompted us to investigate the use of iron (III) tosylate as a catalyst for acylal formation. We now report that iron (III) tosylate is an efficient catalyst for the synthesis of acylals from aromatic aldehydes and acetic anhydride. Iron (III) tosylate is an attractive catalyst because of its low cost and ease of handling. The results of this study are presented.

$$R \stackrel{O}{=} H \qquad Fe(OTs)_3 \cdot 6H_2O (2-5 \text{ mol } \%)$$

$$(CH_3CO)_2O \qquad R \stackrel{OAc}{=} H$$

$$Ac = CH_3C -$$

 $R = p\text{-}CH_3, p\text{-}Cl, p\text{-}OCH_3, p\text{-}OH$