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Clean Nitrating Agent Dinitrogen Pentoxide and its Application in Nitration

LÜ Chun-xu

(School of Chemical and Engineering, Nanjing University of Science and Technology, Nanjing 210094)

Abstract: Nitration of aromatic hydrocarbon and nitrogen heterocyclic by N₂O₅ was summarized. N₂O₅/nitric acid system is a very powerful nitration reagent and particularly valuable for the nitration of highly deactivated aromatics. N₂O₅/organic solvent system is a much milder and more selective nitration reagent, which is suitable for the cases that the substrates or products are sensitive to acid or water, and for region-selective O-nitration. Furthermore, the synthesis and pilot-plant-scale process of N₂O₅ were also summarized.

Key words: organic chemistry; dinitrogen pentoxide; nitration; clean

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※ 读者·作者·编者 ※

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