- S. Gronowitz and J. Roe, Acta Chem. Scand., 19, 1741(1965), and J. D. Davenport, R. E. Hackler, and H. E. Taylor, British Patent 1,218,623; Chem. Abstr., 75, 15186h(1971).
- T. J. Kress, J. Org. Chem., 44, 2081(1979).

 A portion of this work has been reported, T. J. Kress and E. F. Szymanski, U. S. Patent 4, 252,955(1981); Chem. Abstr., 94, 192368m(1981).

 Org. Synthesis, Coll. Vol. 4, 688(1963).
- Y. Hachilhama, T. Shono, and S. Ikeda, J. Org. Chem. 29, 1371(1964).
- B. Lythgoe and L. Rayner, J. Chem Soc., 2323(1951).

NEW APPLICATIONS OF MONONUCLEAR HETEROCYCLIC REARRANGEMENTS (MHR's) IN ORGANIC SYNTHESIS

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Mononuclear heterocyclic rearrangements 1 represent a class of azole/azole interconversions first systematized by Boulton and Katritzky 2. Interest in the synthesis of LY 108887 prompted our consideration of a scarcely documented version of this rearrangement. Thus, reaction of methyl pivalate with 3-methyl-5-dimethylamino-1,2,4-oxadiazole in the presence of lithium diisopropylamide (LDA) at low temperature, followed by quench with aqueous acid at 0° gave LY 156544 in high yield. Treatment of this compound with ethanolic potassium hydroxide gave LY 108887 in quantitative yield.

Further examples of this condensation/rearrangement sequence and extensions to other heterocyclic ring systems are discussed.

- Recent review: M. Ruccia, N. Vivona, and D. Spinelli, Adv. Het. Chem., 29, 141 (1981).
- A. J. Boulton, A. R. Katritzky, and A. M. Hamid, \underline{J} . Chem. Soc. C, 2005 (1967).

6-SUBSTITUTED NICOTINIC ACIDS FROM 2-METHYL-5-ETHYLPYRIDINE

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In our continuing exploration or the chemistry of isocinchomeronic