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Intramolecular Cyclization with Nitrenium Ions Generated by Treatment of *N*-Acylaminophthalimides with Hypervalent Iodine Compounds: Formation of Lactams and Spiro-Fused Lactams

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N-Phthalimido-*N*-acylnitrenium ions are generated from *N*-acylaminophthalimides, a new class of precursors, by treatment with hypervalent iodine compounds (PIFA and HTIB). In HFIP the nitrenium ions undergo intramolecular electrophilic substitution reactions to afford *N*-amino nitrogen heterocycles in high yields. In TFEA, spirodienones bearing 1-azaspiro[4.5]decane skeleton are obtained by treatment of *N*-phthalimido-3-(4-halogenophenyl)propanamides with HTIB as a result of ipso attack of the intermediate nitrenium ion. Similarly, using PIFA in TFEA, *ipso* cyclization of unactivated benzenoid compounds occurs to give spirodiene derivatives. This involves loss of aromaticity despite the absence of other activating substituents on the phenyl group.

