

Pentanamide, when treated with lead tetraacetate in hot benzene, affords a mixture of *N*-butylacetamide and *N,N'*-dibutylurea. Examples of similar transformations of a number of primary carboxamides are described. The reaction, which may also be conducted in acetic acid or benzene-acetic acid mixture, is catalysed by pyridine. Cyclohexanecarboxamide, when oxidized by lead tetraacetate in the presence of propionic or benzoic acid, is converted into the appropriate acylcyclohexylamine. The reaction mechanism involves intermediate formation of alkyl isocyanate, possibly via Curtius rearrangement of acylnitrene.