The Plasma Decarbonylation of Organic Compounds

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The decarbonylation of organic compounds easily occurs in electrical discharges. With aldehydes, ketones, phenoles, and quinones the loss of CO is always the main reaction. Acyclic compounds form radicals which stabilize in the usual way. Cyclic compounds give predominantly products of ring constriction. Substances like phenoles which easily tautomerise to ketones also are decarbonylated smoothly. Molecules containing several carbonyl or phenolic groups show the elimination of one or more molecules of CO.

Decarbonylation reactions in plasma show satisfying selectivity and high yields. Thus, they are attractive one-step-syntheses for many compounds.

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