Synthesis and Properties of 1-Acyl Triazenes

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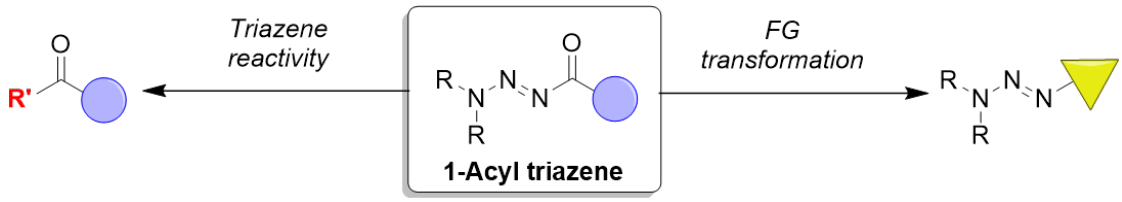
3-Acyl triazenes are well-studied compounds with applications in medicinal and synthetic chemistry [1,2]. In contrast, there are hardly any reports about triazenes with acyl groups attached to the N1 atom, and general methods to prepare these compounds are missing. Here, we show that 1-acyl triazenes are readily accessible by acid-catalysed hydration of 1-alkynyl triazenes, or by gold- or iodine-catalysed oxidation of 1-alkynyl triazenes [3]. Crystallographic analyses show that 1-acyl triazenes are characterized by very short N2-N3 bonds. 1-Acyl triazenes display high thermal and hydrolytic stability, and tolerate oxidative and strong basic conditions. Under strong acidic conditions, 1-acyl triazenes acts as acylation reagents. This reactivity could open-up new pathways for organic synthesis. In addition, functional group transformation of 1-acyl triazenes could lead to building blocks that enable late-stage functionalization.



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