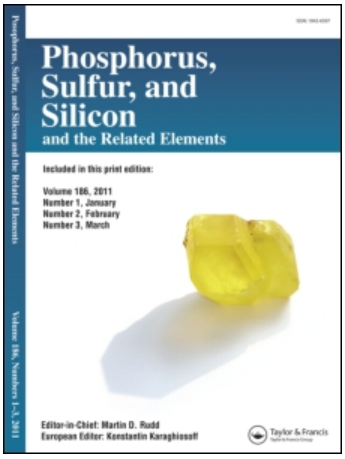


Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

OXIDATION OF THIOFLAVONOIDS WITH CERIC AMMONIUM NITRATE

J. Bálint[a]; M. Rákosi[b]; R. Bognár[b]
[a] BIOGAL Pharmaceutical Works, Debrecen, Hungary [b] Research Group of Antibiotic Chemistry of the Hungarian Academy of Sciences, Debrecen, Hungary

To cite this Article Bálint, J. , Rákosi, M. and Bognár, R.(1979) 'OXIDATION OF THIOFLAVONOIDS WITH CERIC AMMONIUM NITRATE', Phosphorus, Sulfur, and Silicon and the Related Elements, 6: 1, 21 — 22
To link to this Article: DOI: 10.1080/03086647908080284
URL: http://dx.doi.org/10.1080/03086647908080284

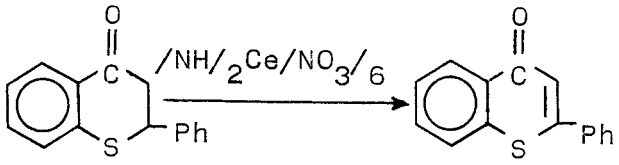
Phosphorus and Sulfur
1979, Vol. 6, pp. 21–22

OXIDATION OF THIOFLAVONOIDS WITH CERIC AMMONIUM NITRATE

J.Bálint*, M.Rákosi**, R.Bognár**

* BIOGAL Pharmaceutical Works, Debrecen /Hungary/
** Research Group of Antibiotic Chemistry of the Hungarian Academy of Sciences, Debrecen /Hungary/

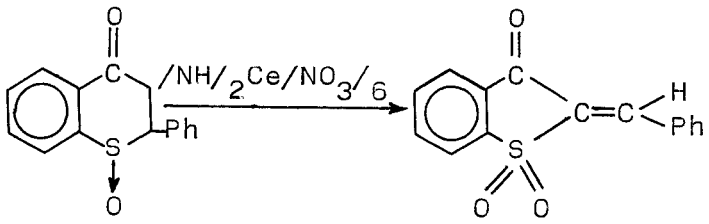
Ceric ammonium nitrate which is used for the preparation of sulfoxides does not react with 1-thioflavanone /1/ in the expected way, since in the course of the reaction 1-thioflavone /2/ is formed[1], instead of 1-thioflavanone sulfoxide /3/.



/1/ /2/

When investigating the reaction we had to exclude the possibility of the conversion of 1-thioflavanone sulfoxide, formed as an intermediate compound, to 1-thioflavone through a Pummerer-type rearrangement[2], since the formation of sulfoxide during the reaction cannot be indicated.

This is also proved by the fact, that 1-thioflavanone sulfoxide /3/ with ceric ammonium nitrate gives 2-benzylidene-3-thiaindanone sulfone /4/.



/3/ /4/

Similar ring-contraction occurs in the photochemical rearrangement of these compounds[3] with the only difference that, with the oxygenated agent, the sulfoxide is converted to sulfone.

The sulfur atom plays a decisive role in the oxidation of 1-thioflavanone to 1-thioflavone because, ceric ammonium nitrate does not enter to reaction, with flavanone, i.e. the oxygen-containing analogue.

---

1. R.Bognár, J.Bálint, M.Rákosi: Liebigs Ann.Chem.1977, 1529
2. T.L.Ho, C.M.Wong: Synth., 1972, 561
3. I.W.J.Still, P.C.Arora, M.S.Chauhan, M.-H Kwan, M.T.Thomas: Can.J.Chem., 54, 455 /1976/.