1,5-DIALKYL VERDAZYLS AND A NEW BETAINE SYSTEM

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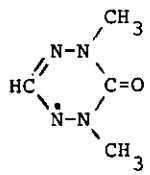
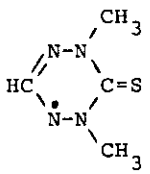
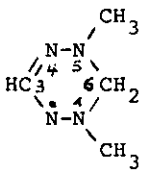
We prepared or generated verdazyls of type 1 - 3 via simple synthetic routes (e. g. 4 → 5 → 2; 5 → 6 → 3). According to spectroscopic evidence (ESR, ENDOR, etc.) in 1 and 2 the hydrazidinyl system is extensively planar, whereas in 3 the 1,5-nitrogens have a nonplanar geometry.



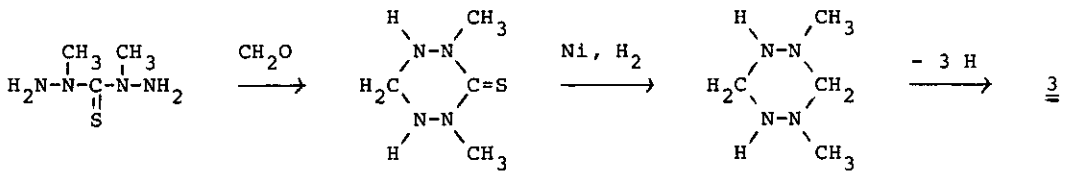
1: m.p. 52-53°C



2: m.p. 77-78°C

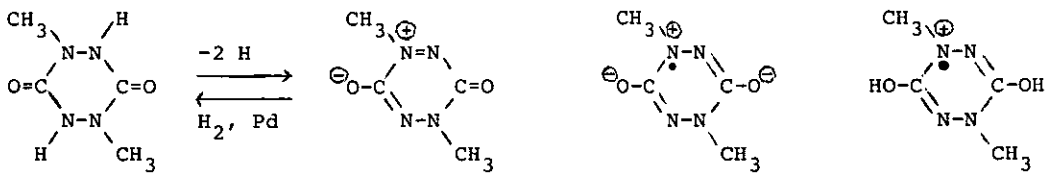


3



4 5 6

In the course of these studies we found that 7 can be dehydrogenated to yield the deep blue betaine 8. 7 and 8 comproportionate in basic or acidic solution to form the corresponding radical ions 9 and 10.



7 8 9 10

In addition to the given examples we will report on chemical and physical properties of related compounds.