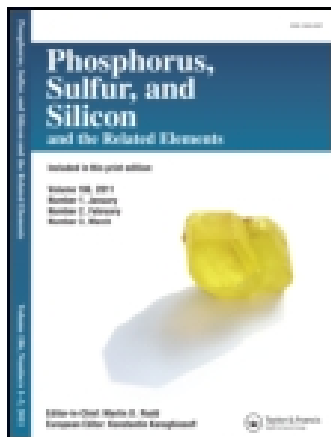


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A New Three Carbon Homologation Via Sulfur Containing Heterocyclic Systems

Romualdo Caputo , Annalisa Guaragna , Giovanni Palumbo & Silvana Pedatella

^a Università di Napoli Federico II -
Dipartimento di Chimica Organica e
Biologica , Via Mezzocannone 16, 1-80134
Napoli, (Italy)

^b Università di Napoli Federico II -
Dipartimento di Chimica Organica e
Biologica , Via Mezzocannone 16, 1-80134
Napoli, (Italy)

^c Università di Napoli Federico II -
Dipartimento di Chimica Organica e
Biologica , Via Mezzocannone 16, 1-80134
Napoli, (Italy)

^d Università di Napoli Federico II -
Dipartimento di Chimica Organica e
Biologica , Via Mezzocannone 16, 1-80134
Napoli, (Italy)

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A New Three Carbon Homologation *Via* Sulfur Containing Heterocyclic Systems

ROMUALDO CAPUTO, ANNALISA GUARAGNA,
 GIOVANNI PALUMBO and SILVANA PEDATELLA

*Università di Napoli Federico II – Dipartimento di Chimica Organica e Biologica,
 Via Mezzocannone 16, I-80134 Napoli (Italy)*

A new reagent, based on a 5,6-dihydro-1,4-dithiin heterocyclic system¹, has been devised and conveniently used for 3 carbon elongations of various electrophiles. In fact, it acts as either a propenyl alcohol or an acrolein anion equivalent, introducing into the new molecule a moiety consisting of fully protected double bond and allylic oxygen.

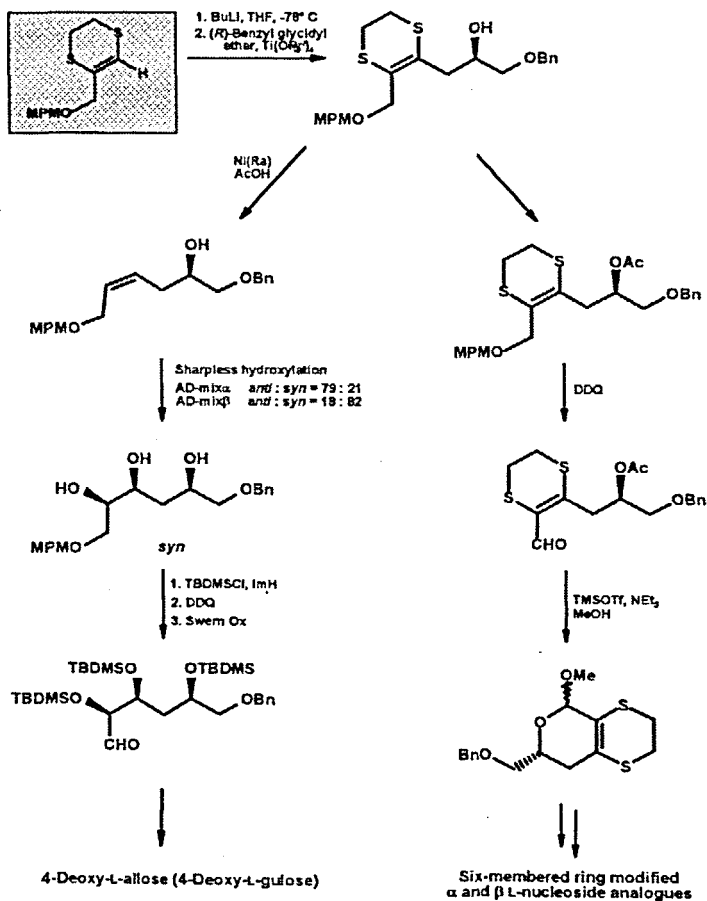


The reagent has been used for the elongation of chiral electrophiles², like protected (*R*)- and (*S*)-glyceraldehydes or (*R*)- and (*S*)-benzyl glycidyl ethers, towards the synthesis of simple sugars and other substances containing modified sugars. It is also noteworthy the preparation of 4-deoxy sugars from benzyl glycidyl ethers, as well as the preparation of azasugars from protected (*S*)- α -amino aldehydes.

The cleavage of the *p*-methoxybenzyl ether protecting group by DDQ can be performed under experimental conditions which lead to either an allylic hydroxyl group or to a carbaldehyde function. Some examples of

the above experiments are outlined in the following scheme:

1. R. Caputo, C. Ferreri and G. Palumbo, *Synthesis*, 223 (1981).
2. R. Caputo, L. Longobardo, G. Palumbo and S. Pedatella, *Tetrahedron*, 52, 11857 (1996).



References

- [1] R. Caputo, C. Ferreri and G. Palumbo, *Synthesis*, 223 (1981).
- [2] R. Caputo, L. Longobardo, G. Palumbo and S. Pedatella, *Tetrahedron*, 52, 11857 (1996).