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Convenient Synthesis of α-Trifluoromethylated Acyloins From α-Hydroxy or α-Amino Acids

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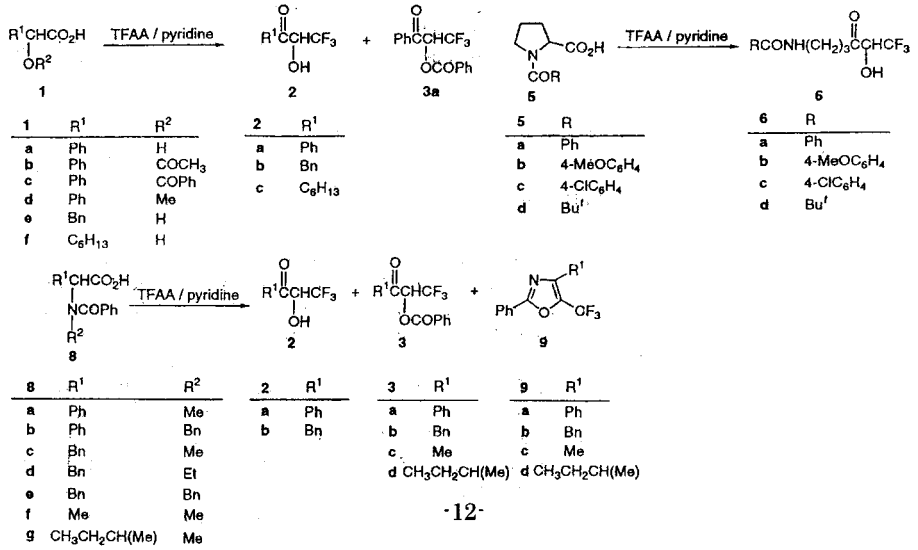
Abstract. **α**-Trifluoromethylated acyloins (2 and 6) have been prepared from **α**-hydroxy acids (1), *N*-acylprolines (5) or *N*-acyl-*N*-alkyl **α**-amino acids (8) by novel transformation reactions with trifluoroacetic anhydride (TFAA) in the presence of pyridine. The former reaction of 1 could proceed through mesoionic 1,3-dioxolium-4-olates, whereas the latter two reactions of **α**-amino acids (5 and 8) could involve mesoionic 1,3-oxazolium-5-olates. The reaction of 1 with TFAA shows more potential for practical applications because of the ready availability of the starting materials and ease of manipulation.



1	R^1	R^2
a	Ph	H
b	Ph	$COCH_3$
c	Ph	COPh
d	Ph	Me
e	Bn	H
f	C_6H_{13}	H

2	R^1
a	Ph
b	Bn
c	C_6H_{13}

5	R
a	Ph
b	4-$MeOC_6H_4$
c	4-ClC_6H_4
d	Bu^t

6	R
a	Ph
b	4-$MeOC_6H_4$
c	4-ClC_6H_4
d	Bu^t

8	R^1	R^2
a	Ph	Me
b	Ph	Bn
c	Bn	Me
d	Bn	Et
e	Bn	Bn
f	Me	Me
g	$CH_3CH_2CH(Me)$	Me

2	R^1
a	Ph
b	Bn

3	R^1
a	Ph
b	Bn
c	Me
d	$CH_3CH_2CH(Me)$

9	R^1
a	Ph
b	Bn
c	Me
d	$CH_3CH_2CH(Me)$