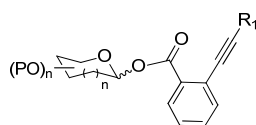


Au(I)催化的糖苷化反应给体

(*Ortho*-alkynyl-benzoates glycosyl donors, for glycosylation under the catalysis of gold(I) complex)

1. General information of the glycosyl donors

The *ortho*-alkynylbenzoates are a new type of glycosyl donors (Fig. 1), which undergo glycosylation in the presence of a catalytic amount of a gold(I) complex. The carbohydrates for glycosylation can be *D*-glucopyranose, *D*-glucosaminepyranose, *D*-galactopyranose, *L*-rhamnopyranose, *L*-arabofuranose, *D*-ribofuranose, etc. Other carbohydrate *ortho*-alkynylbenzoate donors can also be prepared according to the carbohydrate chemists' needs through the same synthetic method.



Sugar = *D*-glucopyranose, *D*-glucosaminepyranose, *D*-galactopyranose, *L*-rhamnopyranose, *L*-arabofuranose, *D*-ribofuranose, etc.

R₁ = *n*-Bu, cyclopropylethynyl

Fig.1

Depending on the type of carbohydrates and the preparative conditions as well, a varied α : β anomer ratios of the donors are attained. Experiments showed little difference between the pair of anomers in glycosylation in accord with the glycosylation mechanism; thus the anomeric mixtures need not to be separated but can be directly used in the glycosylation reactions. For details of the methodology, see the followed references.

Ref: 1. Biao Yu, etc. *Angew. Chem. Int. Ed.* 2011, 50, 4933–4936.

2. Biao Yu, etc. *Angew. Chem. Int. Ed.* 2011, 50, 8329–8332.

3. Biao Yu, etc. *Chem. Commun.*, 2010, 46, 6060–6062.

4. Biao Yu, etc. *Chem. Commun.*, 2011, 47, 7515–7517.

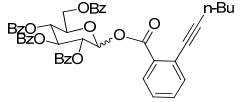
5. Biao Yu, etc. *Chem. Eur. J.* 2010, 16, 1871–1882.

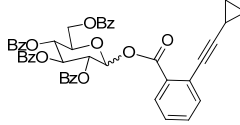
6. Biao Yu, etc. *J. Org. Chem.* 2010, 75, 6879–6888.

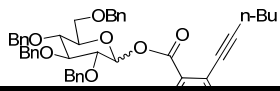
7. Biao Yu, etc. *Tetrahedron Letters.* 49 (2008) 3604–3608.

2. The catalyst and donor list

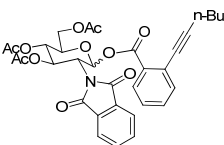
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Formula		
FW		
Physical state		
mp (°C)		
References		

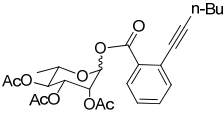
Chemical name	2,3,4,6-Tetra- <i>O</i> -benzoyl- <i>D</i> -glucopyranosyl <i>ortho</i> -hexynylbenzoate		
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Formula	C47H40O11		
FW	780.8		
Physical state			
mp (°C)			
References			

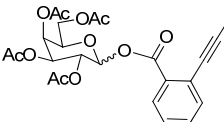
Chemical name	2,3,4,6-Tetra- <i>O</i> -benzoyl- <i>D</i> -glucopyranosyl <i>ortho</i> -cyclopropylethybenzoate		
Product code			
CAS No.			
Formula	C46H36O11		
FW	764.8		
Physical state			
mp (°C)			
References			

Chemical name	2,3,4,6-Tetra- <i>O</i> -benzyl- <i>D</i> -glucopyranosyl <i>ortho</i> -hexynylbenzoate		
Product code			
CAS No.	1038411-45-8		
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Physical state			
mp (°C)			
References			

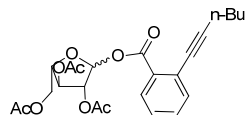
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mp (°C)	
References	

Chemical name	3,4,6-Tri- <i>O</i> -acetyl-2-desoxy-2- <i>N</i> -phthaloyl- <i>D</i> -glucosaminepyranosyl <i>ortho</i> -hexynylbenzoate	
Product code		
CAS No.	1038411-38-9	
Formula	C33H33NO11	
FW	619.6	
Physical state		
mp (°C)		
References		

Chemical name	2,3,4-Tri- <i>O</i> -acetyl- <i>L</i> -rhamnopyranosyl <i>ortho</i> -hexynylbenzoate	
Product code		
CAS No.	1219934-70-9	
Formula	C27H32O11	
FW	532.53	
Physical state		
mp (°C)		
References		

Chemical name	2,3,4,6-Tetra- <i>O</i> -acetyl- <i>D</i> -galacopyranosyl <i>ortho</i> -hexynylbenzoate	
Product code		
CAS No.	1311109-71-3	
Formula		
FW		
Physical state		
mp (°C)		
References		

Chemical name	2,3,5-Tri- <i>O</i> -acetyl- <i>L</i> -arabofuranosyl <i>ortho</i> -hexynylbenzoate	
Product code		
CAS No.	1311109-69-9	
Formula		
FW		
Physical state		
mp (°C)		
References		



Chemical name	2,3,5-Tri- <i>O</i> -acetyl- <i>D</i> -ribofuranosyl <i>ortho</i> -hexynylbenzoate	
Product code		
CAS No.	1311109-67-7	
Formula		
FW		
Physical state		
mp (°C)		
References		

