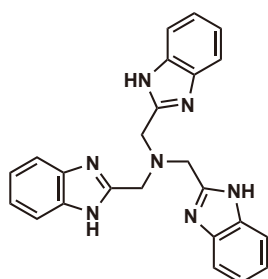


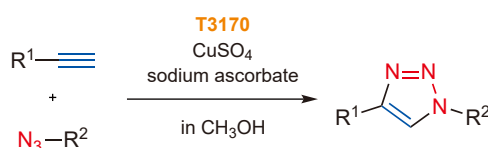
Ligands Accelerating Click Reaction

Copper(I)-catalyzed azide alkyne cycloadditions (CuAAC) are a well-developed and typical example of so-called "click reaction". Click chemistry has come to high prominence in the past decade due to their applications to chemical biology. Applications have provided strong innovation in the chemical biology field in part to the "bioorthogonality" of ethynyl and azido groups, which do not interfere with living systems. However, copper(I) anions are easily oxidized and undergo disproportionation, in addition to showing cytotoxic effects. Because of this, *in vivo* CuAAC has a quite limited use. Fortunately and recently, Sharpless and Fokin *et al.* have demonstrated the copper(I) anion stabilizing and reaction accelerating abilities of tertiary amine and triazine bearing ligands.¹⁾ Additionally, water-soluble ligands have been developed. With these innovations, CuAAC can be conducted on the cell surface²⁾ or within the cell³⁾ can proceed with low loading amount of Cu catalyst and without showing cytotoxicity.

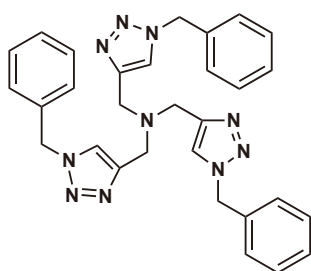
- References** 1) T. R. Chan, R. Hilgraf, K. B. Sharpless, V. V. Fokin, *Org. Lett.* **2004**, *6*, 2858.
 2) V. Hong, N. F. Steinmetz, M. Manchester, M. G. Finn, *Bioconjugate Chem.* **2010**, *21*, 1912.
 3) M. Yang, A. S. Jalloh, W. Wei, J. Zhao, P. Wu, P. R. Chen, *Nature Commn.* **2014**, *5*, 4981.



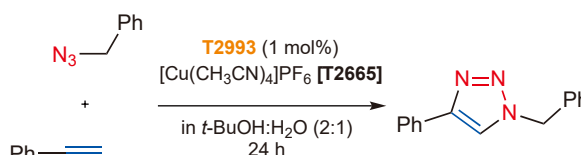
(BimH)₃
200mg / 1g
[T3170]



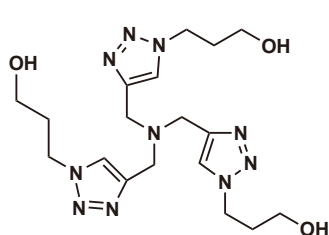
Reference V. O. Rodionov, S. I. Presolski, S. Gardinier, Y. Lim, M. G. Finn, *J. Am. Chem. Soc.* **2007**, *129*, 12696.
<https://doi.org/10.1021/ja072678l>



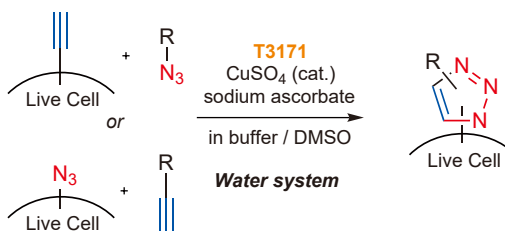
TBTA
1g / 5g
[T2993]



Reference T. R. Chan, R. Hilgraf, K. B. Sharpless, V. V. Fokin, *Org. Lett.* **2004**, *6*, 2853.
<https://doi.org/10.1021/ol0493094>

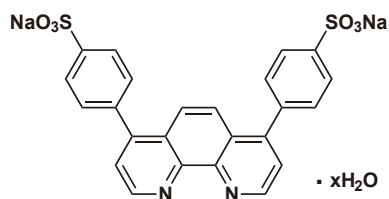


THPTA
200mg
[T3171]



References a) D. C. Kennedy, C. S. McKay, M. C. B. Legault, D. C. Danielson, J. A. Blake, A. F. Pegoraro, A. Stolow, Z. Mester, J. P. Pezacki, *J. Am. Chem. Soc.* **2011**, *133*, 17993.
<https://doi.org/10.1021/ja2083027>
 b) V. Hong, N. F. Steinmetz, M. Manchester, M. G. Finn, *Bioconjugate Chem.* **2010**, *21*, 1912.
<https://doi.org/10.1021/bc100272z>

Ligands Accelerating Click Reaction

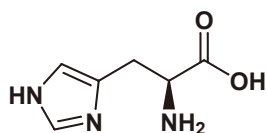


BPS Hydrate

1g
[B0989]

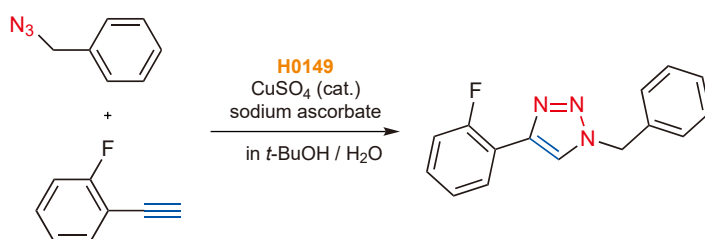


Reference W. G. Lewis, F. G. Magallon, V. V. Fokin, M. G. Finn, *J. Am. Chem. Soc.* **2004**, 126, 9152.
<https://doi.org/10.1021/ja048425z>



L-Histidine

25g / 250g
[H0149]



Reference P. Krapf, R. Richarz, E. A. Urusova, B. Neumaier, B. D. Zlatopolskiy, *Eur. J. Org. Chem.* **2016**, 430.
<https://doi.org/10.1002/ejoc.201501377>

Related Products

Sodium L-Ascorbate

25g / 500g [A0539]

Tetrakis(acetonitrile)copper(I) Hexafluorophosphate (= [Cu(CH₃CN)₄]PF₆)

5g [T2665]

For further information please refer to our website at www.TCIchemicals.com. ▶▶▶

tciclick



Ordering and Customer Service

TCI AMERICA

Tel : 800-423-8616 / 503-283-1681
Fax : 888-520-1075 / 503-283-1987
E-mail : Sales-US@TCIchemicals.com

TCI EUROPE N.V.

Tel : +32 (0)3 735 07 00
Fax : +32 (0)3 735 07 01
E-mail : Sales-EU@TCIchemicals.com

TCI Deutschland GmbH

Tel : +49 (0)6196 64053-00
Fax : +49 (0)6196 64053-01
E-mail : Sales-DE@TCIchemicals.com

Tokyo Chemical Industry UK Ltd.

Tel : +44 (0)1865 78 45 60
E-mail : Sales-UK@TCIchemicals.com

TCI Chemicals (India) Pvt. Ltd.

Tel : 1800 425 7889 / 044-2262 0909
E-mail : Sales-IN@TCIchemicals.com

梯希爱(上海)化成工业发展有限公司

Tel : 800-988-0390 / 021-67121386
Fax : 021-6712-1385
E-mail : Sales-CN@TCIchemicals.com

TOKYO CHEMICAL INDUSTRY CO., LTD.

Tel : +81 (0)3-5640-8878
E-mail : globalbusiness@TCIchemicals.com

Availability, price or specification of the listed products are subject to change without prior notice. Reproduction forbidden without the prior written consent of Tokyo Chemical Industry Co., Ltd.