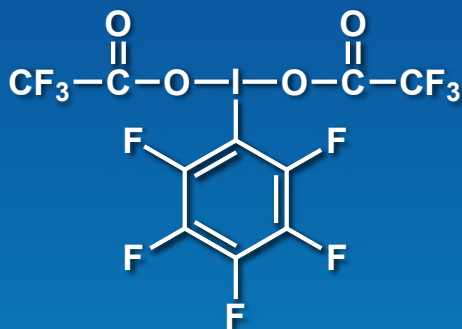


Hypervalent Iodine Reagent for Photoredox Trifluoromethylation

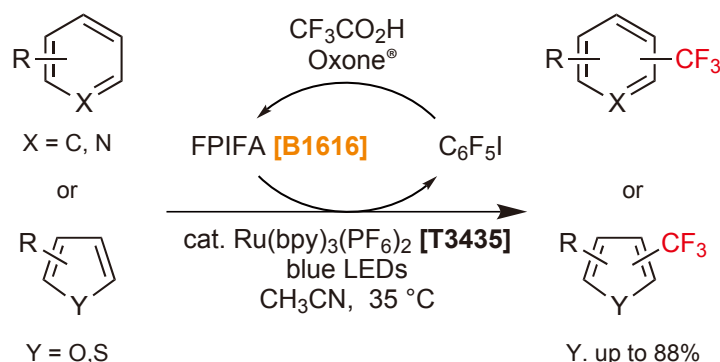


FPIFA
[B1616]

Advantages

- Usable for C-H Trifluoromethylation of (Hetero)arenes with a Photoredox Catalyst
- Applicable under the Neutral Condition
- Pentafluoroiodobenzene as a Byproduct Is Easily Recoverable and Recyclable to FPIFA.

Application



B. Yang, D. Yu, X.-H. Xu, F.-L. Qing, *ACS Catal.* **2018**, *8*, 2839.

Experimental procedure:

A Schlenk flask is charged with $\text{Ru}(\text{bpy})_3(\text{PF}_6)_2$ (9.0 mg, 0.01 mmol, 2 mol%), FPIFA (650.0 mg, 1.25 mmol, 2.5 equiv.), dimethyl terephthalate (0.5 mmol, 1.0 equiv.). Next, acetonitrile (7.5 mL) is added to the reaction mixture. The mixture is degassed twice by the freeze-pump-thaw procedure, then irradiated under blue LED strips (4.8 W). The reaction mixture is subsequently stirred at 35 °C for 12 h. After the reaction is completed, it is diluted with water (8.0 mL). The aqueous phase is extracted with ether (8.0 mL) three times. The combined organic layers are washed with brine and dried over anhydrous sodium sulfate, and concentrates *in vacuo*. The residue is purified by silica gel column chromatography (hexane:EtOAc = 15:1) to afford dimethyl (trifluoromethyl)terephthalate in 63% yield (83.9 mg).

[Bis(trifluoroacetoxy)iodo]pentafluorobenzene (= FPIFA)

1g / 5g [B1616]

Related Product

Tris(2,2'-bipyridine)ruthenium(II) Bis(hexafluorophosphate) (= $\text{Ru}(\text{bpy})_3(\text{PF}_6)_2$)

1g [T3435]

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



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 784560
Fax : +44 (0)1865 784561
E-mail : Sales-UK@TCIchemicals.com

TCI Chemicals (India) Pvt. Ltd.

Tel : 1800 425 7889 / 044-2262 0909
Fax : 044-2262 8902
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
Fax : +81 (0)3-5640-8902
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.