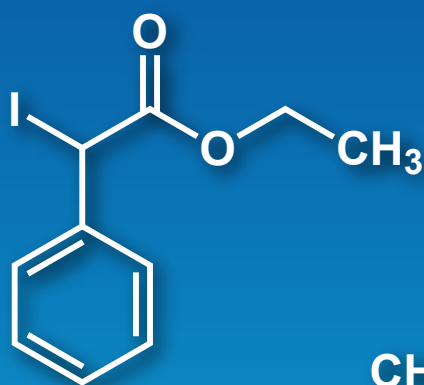
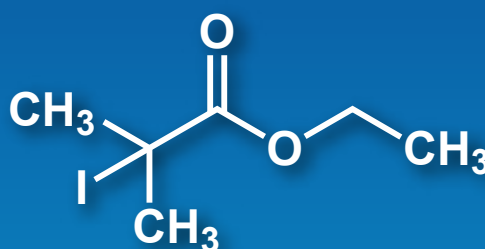


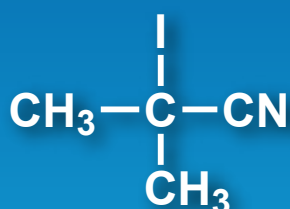
Alkyl Iodide Initiators for Organocatalyzed Living Radical Polymerization



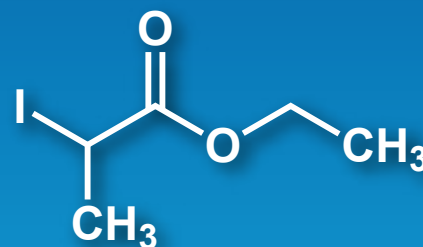
[E1200]



[E1199]



[I0954]



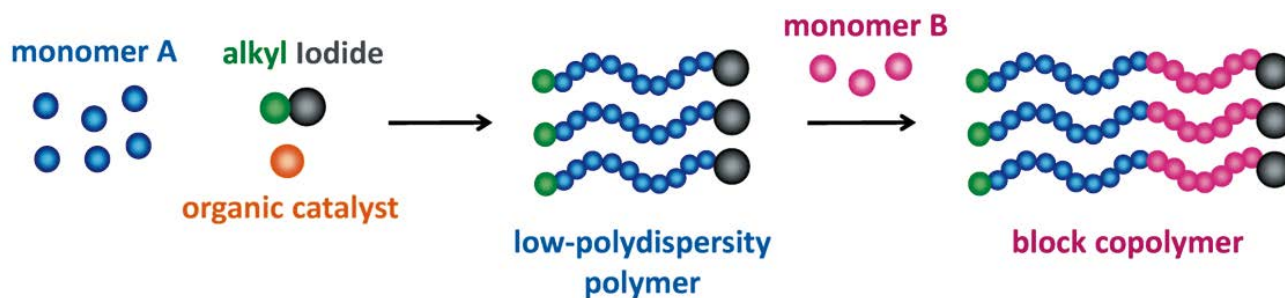
[E1198]

Advantages

- Efficient Initiators for Living Radical Polymerization
- Low Polydispersity Polymers are Accessible
- Metal Free Polymers are Accessible

General Scheme of Organocatalyzed Living Radical Polymerization¹⁻³⁾

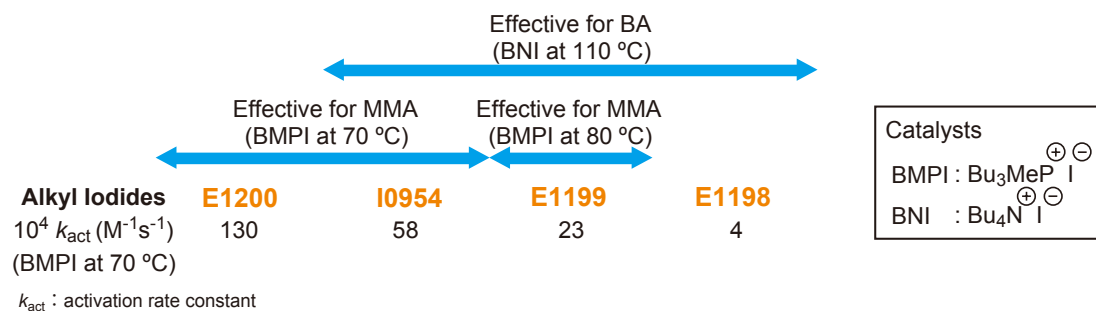
Organocatalyzed Living Radical Polymerization



Goto *et al.* have reported that alkyl iodides are efficient initiators for organocatalyzed living radical polymerization which is a new family of living radical polymerization. Organic amines and organic salts are used as catalysts.¹⁻³⁾

Alkyl Iodide Initiators for Organocatalyzed Living Radical Polymerization

Ranges of Effective Alkyl Iodides in the Polymerizations of Methyl Methacrylate (MMA) and Butyl Acrylate (BA)¹⁾



These alkyl iodides are effective initiators in methyl methacrylate (MMA) and butyl acrylate (BA) polymerizations using tributylmethylphosphonium iodide (BMPI) or tetrabutylammonium iodide (BNI) as a catalyst. Low-polydispersity polymers are obtainable.¹⁾

Ethyl α -Iodophenylacetate

5g / 25g [E1200]

2-Iodo-2-methylpropionitrile

1g / 5g [I0954]

Ethyl 2-Iodo-2-methylpropionate

5g / 25g [E1199]

Ethyl 2-Iodopropionate

5g / 25g [E1198]

- 1a) L. Lei, M. Tanishima, A. Goto, H. Kaji, Y. Yamaguchi, H. Komatsu, T. Jitsukawa, M. Miyamoto, *Macromolecules* **2014**, *47*, 6610.
- b) A. Goto, T. Fukuda, Y. Tsujii, US 7399814, **2008**.
- c) A. Goto, PCT Int. Appl. WO 2015122404, **2015**.
- 2) A. Goto, A. Ohtsuki, H. Ohfuji, M. Tanishima, H. Kaji, *J. Am. Chem. Soc.* **2013**, *135*, 11131.
- 3) A. Ohtsuki, L. Lei, M. Tanishima, A. Goto, H. Kaji, *J. Am. Chem. Soc.* **2015**, *137*, 5610.

These materials were produced by collaboration with Prof. Atsushi Goto (Nanyang Technological University, formerly Kyoto University).

Related Products

Methyl Methacrylate (= MMA)

25mL / 500mL [M0087]

Butyl Acrylate (= BA)

25mL / 500mL [A0142]

Tributylmethylphosphonium Iodide (= BMPI)

5g / 25g [M1455]

Tetrabutylammonium Iodide (= BNI)

25g / 100g / 500g [T0057]

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