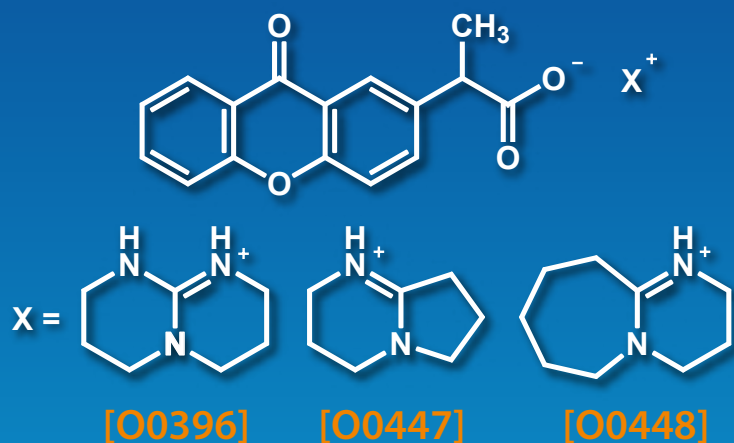


# Photo-Anionic Polymerization Initiators Sensitive to i-line Irradiation

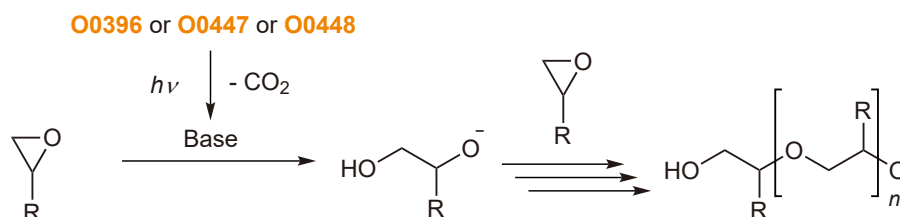


## Advantages

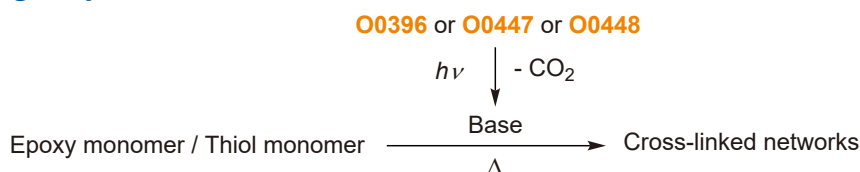
- Highly efficient photodecarboxylation reaction (quantum yield:  $\phi = \text{ca. } 0.64$ ) and free strong base generation proceed through UV light irradiation (254 nm or 365 nm(i-line))
- Generate the following strong bases, O0396 : TBD (pKa=26.03)  
O0447 : DBN (pKa=23.79)  
O0448 : DBU (pKa=24.34)  
(\*each pKa in Acetonitrile)

## Applications

### Photo-Anionic Polymerization of Epoxide Monomers



### Photo-Crosslinking of Epoxide Monomer and Thiol Monomer



References K. Arimitsu, *Yuki Gosei Kagaku Kyokaishi (J. Syn. Org. Chem., Jpn.)* **2012**, 70, 508.  
K. Arimitsu, Tokyo University of Science, J. P. Pat. Appl. JP6011956B, **2016**.  
K. Arimitsu, Tokyo University of Science, J. P. Pat. Appl. JP5733618B, **2015**.

- 2-(9-Oxoxanthene-2-yl)propionic Acid 1,5,7-Triazabicyclo[4.4.0]dec-5-ene Salt 1g [O0396]  
2-(9-Oxoxanthene-2-yl)propionic Acid 1,5-Diazabicyclo[4.3.0]non-5-ene Salt 1g [O0447]  
2-(9-Oxoxanthene-2-yl)propionic Acid 1,8-Diazabicyclo[5.4.0]undec-7-ene Salt 1g [O0448]

These products were commercialized by collaboration with Prof. Koji Arimitsu.

For further information please refer to our website at [www.TCIchemicals.com](http://www.TCIchemicals.com).

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E-mail : Sales-CN@TCIchemicals.com

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Fax : +81 (0)3-5640-8902  
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