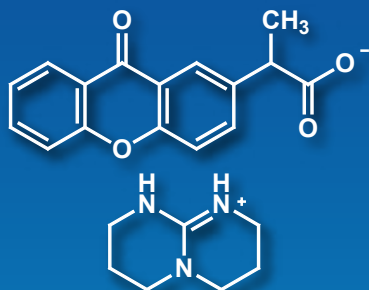
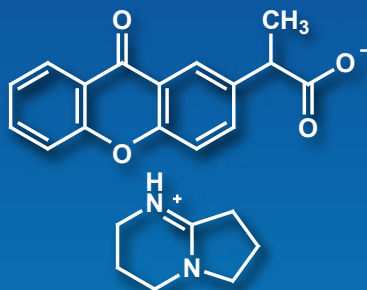


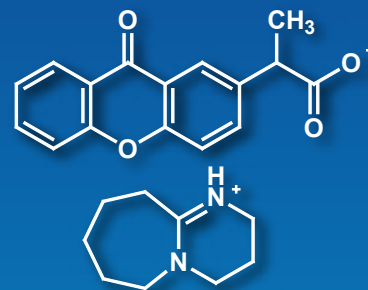
Photo-Anionic Polymerization Initiators Sensitive to i-line Irradiation



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]

Advantages

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

Applications

Photo-Anionic Polymerization of Epoxide Monomers

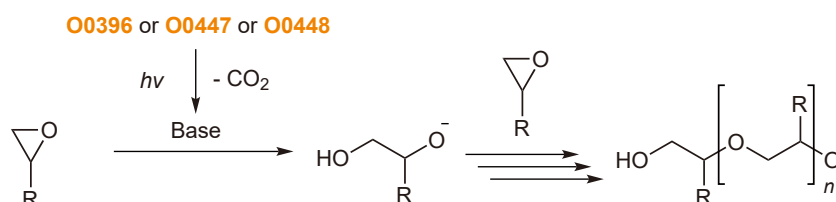
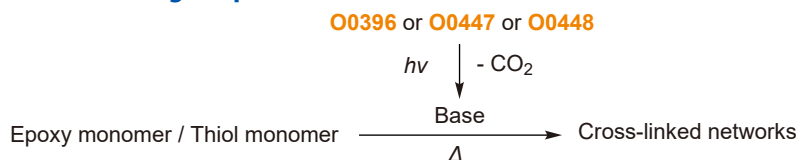


Photo-Crosslinking of Epoxide Monomer and Thiol Monomer



References K. Arimitsu, Yuki Gosei Kagaku Kyokaishi (J. Syn. Org. Chem., Jpn.) **2012**, 70, 508. <https://doi.org/10.5059/yukigoseikyokaishi.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**.

These products have been commercialized under the instruction of Prof. Koji Arimitsu.

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