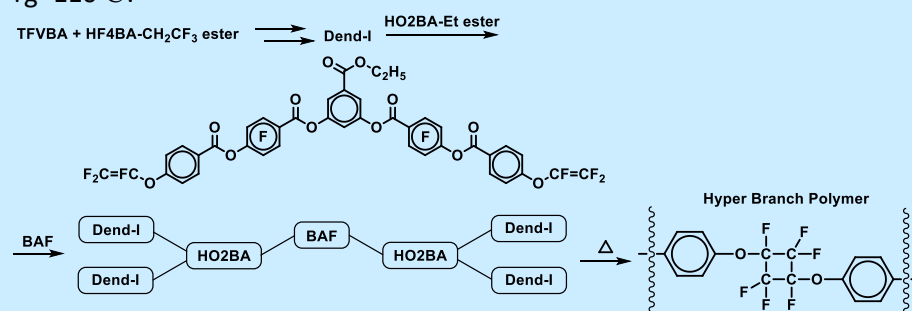


## 4-Hydroxy-2,3,5,6-tetrafluorobenzoic acid(abb.; HF4BA) 4-HO-C<sub>6</sub>F<sub>4</sub>-COOH

Purity	97%
CAS Number	652-34-6
Molecular Formula	C <sub>7</sub> H <sub>2</sub> F <sub>4</sub> O <sub>3</sub>
Molecular Weight	210.09

1. An aromatic AB<sub>2</sub> type monomer with a trifluorovinyl group as a [2+2] cyclization type cure-site, which has the characteristics of low attenuation rate, heat resistance, and easy curability for optical waveguides is prepared. Confirmed thermosetting at 200-225°C\*0.5hr, attenuation rate of 0.36DB/cm at 1310nm wavelength light, heat resistance 1%Td=400°C, T<sub>g</sub>=110°C.



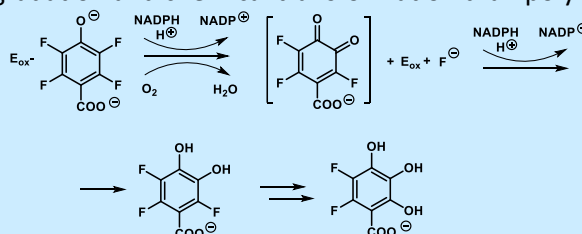
HO<sub>2</sub>BA; 3,5-Dihydroxybenzoic acid, BAF; HOC<sub>6</sub>H<sub>4</sub>-C(CF<sub>3</sub>)<sub>2</sub>-C<sub>6</sub>H<sub>4</sub>OH, TFVBA; CF<sub>2</sub>=CFOC<sub>6</sub>H<sub>4</sub>COOH, Dend-1; CF<sub>2</sub>=CFOC<sub>6</sub>H<sub>4</sub>-COOC<sub>6</sub>F<sub>4</sub>COOH

*Macromolecule*, 2003, 36, 4355-4359,

*Macromol. Rapid Commun.*, 2004, 25, 1667-1673

### Application

2. Microbial defluorination hydroxylation reactions of polyfluorophenols such as HF4BA and pentafluorophenol was investigated. HF4BA is converted to 3,4-Dihydroxy-trifluorobenzoate and 2,3,4-Trihydroxydifluoro-benzoate by 4-hydroxybenzoate hydroxylase of *Pseudomonas fluorescens* strain Y385. It also undergoes decarboxylation and hydroxylation by *Candida parapsilosis* strain CBS604 and is converted to 2,3,5,6-Tetrafluoro-1,4-Dihydroxy-benzene. Both are presumed to have a reaction mechanism involving NADPH, FADH, and peroxide. Polyfluoroaromatics are more susceptible to microbial degradation and chemical transformation than polyfluoroalkyls.



*J. Biological Chemistry*, Vol.255, No.9, 1980, p4189-4197,

*Handbook of Environmtl Chem.*, Vol.3, Part-IV, Org-fluorn, 2002, Chapter 6, p165-171

### Properties:

Appearance	Solid
Boiling point, °C	125/0.05torr sublimation
Melting point, °C	152-154