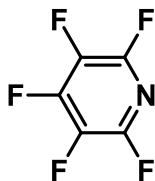


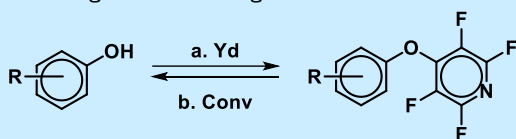
## Pentafluoropyridine(abb. 5F-py)



<b>Purity</b>	97%
<b>CAS Number</b>	700-16-3
<b>Molecular Formula</b>	C <sub>5</sub> F <sub>5</sub> N
<b>Molecular Weight</b>	169.06

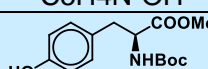
### Application

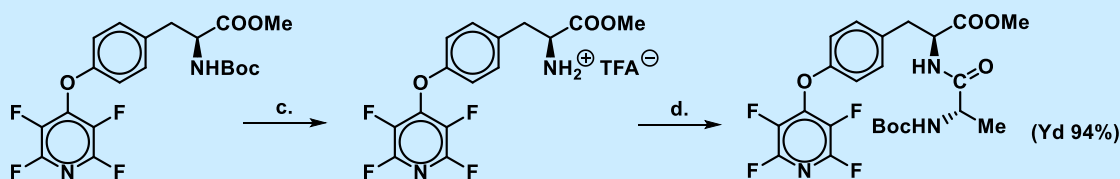
When synthesizing a polypeptide by synthetic organic chemistry, protection and deprotection of side chain functional groups (hydroxyl, amino, sulfhydryl groups, etc.) are important factors as well as protective groups for main chain amino groups and carboxyl groups. A safer phenolic hydroxy-protecting group has been sought due to the toxicity of protection/deprotection reagents and the requirement for H<sub>2</sub> reduction. We found that the backbone of 5F-Py is susceptible to nucleophilic attack and that the phenolic hydroxyl group can be regenerated by a simple deprotection reaction. 5F-Py and its allyl ethers are not sensitive to water and oxygen, and have the advantage of being stable to reagents used for condensation, protection, and deprotection.



- a. 5F-Py, K<sub>2</sub>CO<sub>3</sub>, CH<sub>3</sub>CN, rt\*24hr  
 b. KF, 18-C-6, MTG(HSCH<sub>2</sub>COOCH<sub>3</sub>), CD<sub>3</sub>CN, D<sub>2</sub>O, 50°C\*1hr

### Protection-deprotection results

No.	R-C <sub>6</sub> H <sub>4</sub> OH	Yd	Conv	No.	R-C <sub>6</sub> H <sub>4</sub> OH	Yd	Conv
1	CH <sub>3</sub> -C <sub>6</sub> H <sub>4</sub> OH	95%	95%	4	C <sub>5</sub> H <sub>4</sub> N-OH	49%	99%
2	CN-C <sub>6</sub> H <sub>4</sub> OH	88%	99%	5		75%	75%
3	NH <sub>2</sub> -C <sub>6</sub> H <sub>4</sub> OH	88%	65%				



- c. TFA-DCM 1:4, Quantitative,  
 d. Boc-Ala-OH, PyBOP, DIPEA, DCM, rt,

*Org. & Biomolecular Chem., 2019, 17, p2110-2115, 有機合成化学 Vol.36, No.9, 1978, p740-748,*

### Properties:

<b>Appearance</b>	Liquid
<b>Melting point, °C</b>	-42
<b>Boiling point, °C</b>	83-84

<b>Capacity:</b>	-
<b>Packing:</b>	-
<b>UN, PG:</b>	-