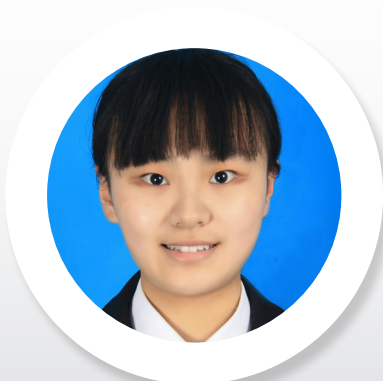


# 6<sup>th</sup> International Conference on Organic & Inorganic Chemistry

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## Novel synthesis of perfluoroalkylated pyrrolo[2,1-a]isoquinolines via a DIPEA-promoted one-pot process

Pyrrolo[2,1-a]isoquinoline derivatives is a kind of compound with good fluorescence properties and also a kind of very important alkaloids having good biological activities. Therefore, the synthetic methodologies for constructing these compounds are highly demanded. DIPEA-promoted one-pot two-step three-component reaction for the synthesis of pyrrolo[2,1-a]isoquinoline has been achieved. In this paper, a series of perfluoroalkylated pyrrolo[2,1-a]isoquinoline derivatives (4) were synthesized by the reaction of isoquinolines (1), bromomethyl ketones (2) and methyl perfluoroalk-2-ynoates (3) in the presence of DIPEA (Scheme 1). This procedure is compatible with a broad range of functional groups in both pyridines and bromomethyl ketones with moderate to good yields.



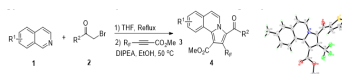
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**Scheme 1**  
**Table 1** Synthesis of 3-perfluoroalkyl pyrrolo[2,1-a]isoquinolines 4<sup>a</sup>

Entry	R <sup>1</sup>	R <sup>2</sup>	R <sub>F</sub>	4	Yield (%) <sup>b</sup>
1	H	-Ph	CF <sub>3</sub>	<b>4a</b>	85
2	6-OMe	-Ph	CF <sub>3</sub>	<b>4b</b>	78
3	6-Me	-Ph	CF <sub>3</sub>	<b>4c</b>	86
4	H		CF <sub>3</sub>	<b>4e</b>	75
5	5-Br	-Ph	CF <sub>3</sub>	<b>4f</b>	62
6	6-Me	-Ph	C <sub>2</sub> F <sub>5</sub>	<b>4g</b>	54
7	6-Me	-Ph	<i>m</i> -C <sub>2</sub> F <sub>5</sub>	<b>4h</b>	49

<sup>a</sup> Reaction conditions: isoquinolines 1 (1.0 mmol), bromomethyl ketones 2 (1.0 mmol), methyl perfluoroalk-2-ynoates 3 (1.5 mmol), THF/EtOH (5 mL + 5 mL). <sup>b</sup> Total isolated yield. We thank the National Natural Science Foundation of China for financial support (Grant No. 21672138).

**Fig. 1** X-ray diffraction of **4e**

## Biography

Wei Zhou is currently enrolled in the Chemistry Department of Shanghai University as a MS student majoring in Organic Chemistry under the guidance of Professor Weiguo Cao. The group is committed to the synthesis of a series of perfluoroalkylated compounds. She published an article in the RSC Adv. and another in J. Org. Chem.

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