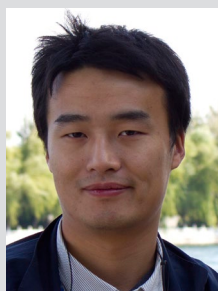


## Young Career Focus: Dr. Can Zhu (Fudan University, P. R. of China)

**Background and Purpose.** SYNFORM regularly meets young up-and-coming researchers who are performing exceptionally well in the arena of organic chemistry and related fields of research, in order to introduce them to the readership. This Young Career Focus presents Dr. Can Zhu (Fudan University, P. R. of China).

### Biographical Sketch



Dr. C. Zhu

**Can Zhu** received his PhD under the supervision of Prof. Shengming Ma from Shanghai Institute of Organic Chemistry (SIOC), P. R. of China in 2014. After that, he started his postdoctoral studies in the group of Prof. Jan-E. Bäckvall at Stockholm University (Sweden). In September 2016, he was awarded an Alexander von Humboldt Foundation Postdoctoral Fellowship to join Prof. Frank Glorius's research group, Westfälische Wilhelms-Universität Münster (Germany), working on non-noble metal catalysis. In July 2018, he moved back to Stockholm University, and worked there as a researcher until joining Prof. Konrad Tiefenbacher's group at University of Basel (Switzerland). In November 2020, Can Zhu began his independent research career at Fudan University, Shanghai, P. R. of China. Currently, his research group's interests focus on the development of dynamic kinetic resolution (DKR) for the synthesis of chiral molecules from racemates. In 2023, he was the recipient of a Thieme Chemistry Journals Award.

### INTERVIEW

**SYNFORM** *What is the focus of your current research activity?*

**Dr. C. Zhu** The research interests of our group mainly focus on the synthesis of chiral molecules via dynamic kinetic resolution (DKR, Scheme 1 left) and dynamic kinetic asymmetric transformations (DYKAT, Scheme 1 right). Chirality has found wide applications in materials science and pesticide and drug development. The current methodologies mainly focus on the asymmetric addition of planar molecules (e.g. olefins, aldehydes, and ketones). Kinetic resolution of racemates is another important means to achieve chiral synthesis, but its yield is theoretically limited to 50%. Moreover, the reaction termination point is difficult to control, which often leads to low enantioselectivity of products. Dynamic kinetic resolution (DKR) can effectively overcome this problem (Scheme 1 left). In this field, the development of efficient, selective and compatible racemic catalysts is the key element to promote the development of DKR technology.

**SYNFORM** *When did you get interested in synthesis?*

**Dr. C. Zhu** I was introduced to organic chemistry when I was in college. At the beginning, I planned to engage in theoretical chemistry, but later in the experimental course, I discovered that synthetic chemistry was so amazing and attractive, and can create different compounds through different catalysts and reaction conditions, and even can create substances that were not originally in this world. Since then, I decided to pursue research in synthetic chemistry.

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**SYNFORM** Could you tell us something about yourself outside the lab, such as your hobbies or extra-work interests?

**Dr. C. Zhu** In addition to scientific research, our team have group activities every week, such as playing basketball, badminton, and watching movies together. Personally, I prefer sports, such as basketball. Doing exercise can keep people healthy, and offer a good platform to strengthen communication with team members.

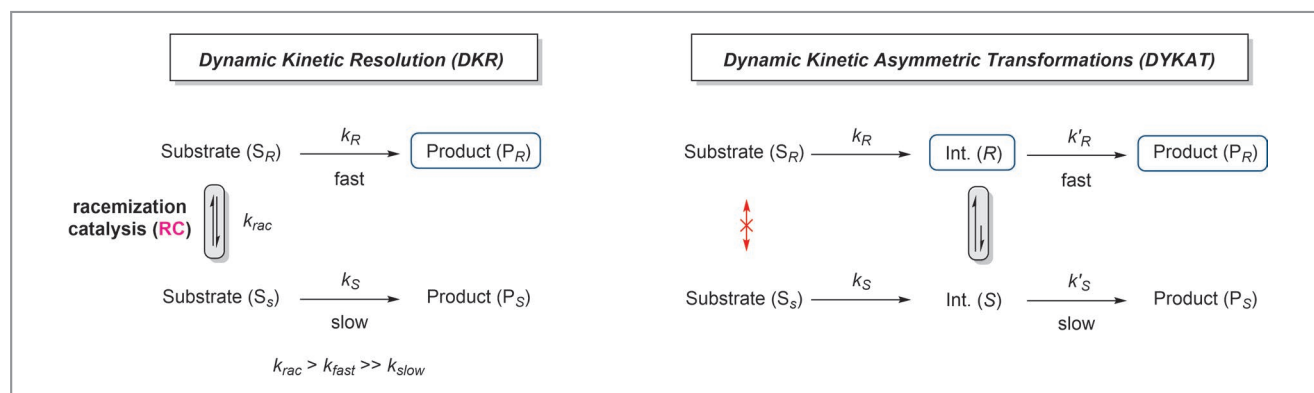
**SYNFORM** If you had not become a chemist, what other profession do you think you would have entered?

**Dr. C. Zhu** If I hadn't become a chemist, I might have gravitated toward being a doctor. The COVID-19 pandemic in recent years has made us deeply appreciate the importance of medical science. At this time, people often think about what they can contribute, and doctors are generally on the front line to save people's lives, which I find very admirable.

**SYNFORM** What is the most exciting aspect of your job, the one you like the most?

**Dr. C. Zhu** New discoveries in the lab are most exciting moments, although most of the time is spent with failure. Sometimes a new spot in TLC (thin-layer chromatography) or a new peak in the crude NMR spectrum is greatly attractive to me, because it indicates the formation of a new compound during the reaction.

*Matthew Fanale*



**Scheme 1** Dynamic kinetic resolution (DKR) and dynamic kinetic asymmetric transformations (DYKAT)