



Make Them (Spin)Talk – Design, Synthesis and Study of Tunable Spin Information Relays

Master thesis (Masterarbeit)

Are you a problem-solver, an imaginative and creative thinker, with an idea for everything? Do you want to hone your skills creating new molecules from sketch to material, and haven't lost your passion for learning? Then we got a job for you!

We are a fresh research team at the University of Zurich (www.rickhauslab.com). Our vision is to do innovative chemistry, combining the *versatility of organic synthesis* with the *power of self-assembly*. We strive to enable our students to deliver cutting-edge science while nurturing personality and team-play. Our team is international, made up of highly diverse backgrounds, experiences and personalities. What we don't know yet, we learn. What we can't learn, we create.

Ready to put on the white coat? We are looking for talented candidates, who share our passion for great science and a delightful sense of humor.

Your project

In this project, we develop covalent multi-spin systems to study spin-information transfer and storage. By synthesis you will engineer systems that consist of at least two organic spin centers, that we connect by a conjugated framework. We then systematically modify the bridge between the two spin centers and trace the changes in the resulting molecular properties. In this way we can deduce design principles for spintronic materials (think quantum computing).

After successful synthesis of the compounds at UZH, we will study their performance by optical and magnetic resonance spectroscopies in collaboration with the Richert group at the University of Freiburg, Germany.

What we expect from you

We look for a highly motivated MSc student with a strong flair for synthetic organic chemistry who dares foraging a little bit into physical chemistry. You convince with your hands-on attitude, agility, ambition and creativity. You have a humble personality and engage work and people with enthusiasm and generosity. You show strong team orientation and problem-solving skills.

If YES, that's your thing then let us know! Also, feel free to reach out if you have questions.

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For us, only competence counts. Send us your application regardless of origin, age, gender, sexual orientation, religion, ideology or disability.