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Posudek disertační práce: **Azidoperfluoroalkany: Syntéza a Aplikace**

**Azidoperfluoroalkanes: Synthesis and Applications**

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Školitel: Ing. Petr Beier, Ph.D.

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The submitted dissertation is concerned with development of new synthetic methodologies for the introduction of fluoroalkyl groups into organic molecules using azidoperfluoroalkanes as appropriate reagents. Their synthetic potential has been tested in the catalyzed azide-alkyne and azide-ketone cycloadditions to provide various 1,2,3-triazoles.

Scientific research follows on the development of new reagents in organofluorine chemistry studied in Petr Beier's group at the Institute of Organic Chemistry and Biochemistry of the CAS.

Dissertation is nice, very well organized or structured, and contains a number of experimental results. A list of publications that are directly related to this work is impressive (*Angew. Chem.* and *ChemistrySelect*) and this work has already been reviewed several times by individual journals.

The list of errors was sent to author and they were corrected in the dissertation (some errors were also found in *Angew. Chem.* publication). List of minor errors: a) p 15, Scheme 22: What is R = X?; b) p 92, compound **71w**, <sup>13</sup>C NMR – one signal is missing.

Finally, I would like to ask a few questions:

- 1) Why did the azide C<sub>2</sub>F<sub>5</sub>N<sub>3</sub> not be prepared from C<sub>2</sub>F<sub>5</sub>-TMS?
- 2) Why only the azide C<sub>2</sub>F<sub>5</sub>N<sub>3</sub> reacted so well in the catalytic system with CuSO<sub>4</sub> 5H<sub>2</sub>O – sodium L-ascorbate? And the one-pot two-step synthesis also. Does Me<sub>3</sub>SiF in the starting azide CF<sub>3</sub>N<sub>3</sub> mean something? I was expecting some reasoning about this.
- 3) What means p (as abbreviation) in <sup>31</sup>P NMR spectrum? (page 92)

Student has demonstrated her creative abilities and the work meets the requirements for a dissertation in a given field and therefore **I recommend to accept** the dissertation for defense.

Studentka prokázala tvůrčí schopnosti a práce splňuje požadavky kladené na disertační práci v daném oboru, a proto disertační práci **doporučuji** přijmout k obhajobě.

Praha, 8. dubna 2019

Dr. Ing. Vladimír Církva