
The Development of Novel Nanostructured Catalyst for Production of Environment-Conscious Alternative Energy instead of Oil

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Nowadays, the environmentally-friendly energy has become a hot playground in the world. One of the key issues to be addressed is the development of novel nanostructural catalyst with high performance that is indispensable for production of environment-conscious alternative energy to oil. Under this driving force, we have been working on the preparation and synthesis of this kind of nano-structured catalyst. A number of parameters including the catalyst support such as nano-sized and micro-sized carbon materials, the preparation conditions and the catalytic performance have been investigated, with a focus on the relationship of preparation-structure-property-activity. To clarify this relation is a big challenge, and more work will be required in future.

During my visit, the joint research has led to two papers that have been submitted to high profile international journals for publication. Below are the details of the papers.

1. Ying Zhou, Nan Xiao, Jieshan Qiu, Yufeng Sun, Tianjun Sun, Zongbin Zhao, Yi Zhang, Noritatsu Tsubaki. Preparation of carbon nanofibers from coal liquefaction residue, *Fuel*, accepted, 2008
2. Nan Xiao, Jieshan Qiu, Dangsheng Su, Changhai Liang, Zhenghao Xiao, Jiangying Qu, Ying Zhou, Yi Zhang, Noritatsu Tsubaki. Preparation and Catalytic Performance in Oxidative Dehydrogenation of Ethylbenzene of Carbon Nanofibers/Reticulated Vitreous Carbon Composites, *Chemistry of Materials*, submitted for publication, 2008

In addition, I gave a talk to the staff and students in the School of Engineering of University of Toyama on Feb. 12th 2008, which entitled “Synthesis and Catalytic Properties of Nano- and Micro-sized Carbon Materials”.

Acknowledgement

I would like to take this opportunity to thank the Venture Business Laboratory, the University of Toyama, for the financial support. Also, special thanks go to Prof. Noritatsu Tsubaki for the invitation and for hosting my visit that is very fruitful and enjoyable. Personally, I think that the VBL foreign researcher program is very good, and it functions as a new platform to foster close collaboration with foreign scientists and is beneficial to the University of Toyama in terms of international impact.