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### Education

**2002.09-2006.07** B.Sc. in Chemistry, Hebei University of Science and Technology, Shijiazhuang, China.

**2009.09-2014.07** M.Sc. & Ph.D. in Analytical Chemistry, Wuhan Institute of Physics and Mathematics, CAS, Wuhan 430071, China.

### Work Experiences

**2016.10-present** Associate Professor, Wuhan Institute of Physics and Mathematics, CAS, Wuhan 430071, China.

**2014.07-2016.10** Assistant Professor, Wuhan Institute of Physics and Mathematics, CAS, Wuhan 430071, China.

**2006.07-2009.09** Technician stuff, Beijing Guangbo Pioneer Biotechnology Co., Ltd, Beijing, 100071, China

### Research Interests

Reactions and Mechanism in Heterogeneous Catalysis

In-situ Solid state NMR Technique

### Publications

[1] **G. Qi;** Q. Wang; J. Xu; Q. Wu; C. Wang; X. Zhao; X. Meng; F. Xiao; F. Deng Direct observation of tin sites and their reversible interconversion in zeolites by solid-state NMR spectroscopy, *Communications Chemistry* 2018, 1, 22.

[2] **G. Qi;** Q. Wang; J. Xu; J. Trébosc; O. Lafon; C. Wang; J.-P. Amoureux; F. Deng Synergic Effect of Active Sites in Zinc-Modified ZSM-5 Zeolites as Revealed by High-Field Solid-State NMR Spectroscopy, *Angew. Chem. Int. Edit.* 2016, 55, 15826-15830.

[3] **G. Qi;** Q. Wang; Y. Y. Chu; J. Xu; A. M. Zheng; J. H. Su; J. F. Chen; C. Wang; W. Y. Wang; P. Gao; F. Deng Room temperature stable zinc carbonyl complex formed in zeolite ZSM-5 and its hydrogenation reactivity: a solid-state NMR study, *Chem. Commun.* 2015, 51, 9177-9180.

[4] **G. Qi;** J. Xu; J. H. Su; J. F. Chen; X. M. Wang; F. Deng Low-Temperature Reactivity of Zn<sup>+</sup> Ions Confined in ZSM-5 Zeolite toward Carbon Monoxide Oxidation: Insight from in Situ DRIFT and ESR Spectroscopy, *J. Am. Chem. Soc.* 2013, 135, 6762-6765.

[5] X. Zhou; C. Wang; Y. Chu; J. Xu; Q. Wang; **G. Qi;** X. Zhao; N. Feng; F. Deng Observation of

an oxonium ion intermediate in ethanol dehydration to ethene on zeolite, *Nature Communications* 2019, 10, 1961.

[6] C. Mao; H. Li; H. Gu; J. Wang; Y. Zou; **G. Qi**; J. Xu; F. Deng; W. Shen; J. Li; S. Liu; J. Zhao; L. Zhang Beyond the Thermal Equilibrium Limit of Ammonia Synthesis with Dual Temperature Zone Catalyst Powered by Solar Light, *Chem* 2019, 5, 2702-2717.

[7] P. Gao; J. Xu; **G. Qi**; C. Wang; Q. Wang; Y. Zhao; Y. Zhang; N. Feng; X. Zhao; J. Li; F. Deng A Mechanistic Study of Methanol-to-Aromatics Reaction over Ga-Modified ZSM-5 Zeolites: Understanding the Dehydrogenation Process, *ACS Catal.* 2018, 8, 9809-9820.

[8] C. Wang; Y. Chu; J. Xu; Q. Wang; **G. Qi**; P. Gao; X. Zhou; F. Deng Extra-Framework Aluminum-Assisted Initial C–C Bond Formation in Methanol-to-Olefins Conversion on Zeolite H-ZSM-5, *Angew. Chem. Int. Edit.* 2018, 57, 10197-10201.

[9] F. Liu; N. Feng; Q. Wang; J. Xu; **G. Qi**; C. Wang; F. Deng Transfer Channel of Photoinduced Holes on a TiO<sub>2</sub> Surface As Revealed by Solid-State Nuclear Magnetic Resonance and Electron Spin Resonance Spectroscopy, *J. Am. Chem. Soc.* 2017, 139, 10020-10028.

[10] X. Wang; J. Xu; **G. Qi**; C. Wang; W. Wang; P. Gao; Q. Wang; X. Liu; N. Feng; F. Deng Carbonylation of ethane with carbon monoxide over Zn-modified ZSM-5 zeolites studied by in situ solid-state NMR spectroscopy, *J. Catal.* 2017, 345, 228-235.

[11] C. Wang; Q. Wang; J. Xu; **G. Qi**; P. Gao; W. Y. Wang; Y. Y. Zou; N. D. Feng; X. L. Liu; F. Deng Direct Detection of Supramolecular Reaction Centers in the Methanol-to-Olefins Conversion over Zeolite H-ZSM-5 by C-13-Al-27 Solid-State NMR Spectroscopy, *Angew. Chem. Int. Edit.* 2016, 55, 2507-2511.

[12] Q. M. Wu; X. Wang; **G. Qi**; Q. Guo; S. X. Pan; X. J. Meng; J. Xu; F. Deng; F. T. Fan; Z. C. Feng; C. Li; S. Maurer; U. Muller; F. S. Xiao Sustainable Synthesis of Zeolites without Addition of Both Organotemplates and Solvents, *J. Am. Chem. Soc.* 2014, 136, 4019-4025.

[13] Y. Y. Jin; Q. Sun; **G. Qi**; C. G. Yang; J. Xu; F. Chen; X. J. Meng; F. Deng; F. S. Xiao Solvent-Free Synthesis of Silicoaluminophosphate Zeolites, *Angew. Chem. Int. Edit.* 2013, 52, 9172-9175.

[14] X. M. Wang; **G. Qi**; J. Xu; B. J. Li; C. Wang; F. Deng NMR-Spectroscopic Evidence of Intermediate-Dependent Pathways for Acetic Acid Formation from Methane and Carbon Monoxide over a ZnZSM-5 Zeolite Catalyst, *Angew. Chem. Int. Edit.* 2012, 51, 3850-3853.