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Profile

Education background:

1999/09-2003/04 East China University of Science and Technology, Chemical Engineering, Doctor of Engineering

1996/09-1999/07 East China University of Science and Technology, Master of Engineering in Chemical Engineering

1990/09-1993/07 Jiangnan University, Chemical Engineering, Junior College

Work experience:

2021/09-present School of Chemical Engineering, East China University of Science and Technology, Professor

2008/01-2021/08 School of Chemical Engineering, East China University of Science and Technology, Associate Researcher

2007/01-2007/12 Department of Chemical Engineering, Israel Institute of Technology, Visiting Scholar

2005/09-2006/12 School of Chemical Engineering, East China University of Science and Technology, Associate Researcher

2003/05-2005/08 School of Chemical Engineering, East China University of Science and Technology, Lecturer

1993/09-1996/07 Wuxi Rubber Factory, Flat Tape Branch Factory, Technician

Research Field

1. Supercritical fluids
2. Heavy oil modification and processing
3. Quantum chemical calculation and molecular simulation

Research results and main published thesis

- 1.Hong-Jun Lu, Dong-Hao Yuan, Chang Gao, Bi-Cheng Li, Zi-Bin Huang, Jing-Yi Yang, Pei-Qing Yuan*. Roles of decalin as hydrogen donor in visbreaking of heavy oil. Journal of Analytical and Applied Pyrolysis, 2023, 175, 106169.
- 2.Rui Peng, Dong-Hao Yuan, Li-Shun Dai, Zhi-Cai Shao, Jing-Yi Yang, Zi-Bin Huang, Liang Zhan, Jian-Hong Gong*, Pei-Qing Yuan*. Strategies for Adding Tetralin in Thermal Processing of Heavy Oil. Journal of Analytical and Applied Pyrolysis, 2023, 170, 105885.
- 3.Dong-Hao Yuan, Xue-Feng Chen, Lei Ding, Jing-Yi Yang, Zi-Bin Huang, Pei-Qing Yuan*. A Molecular Dynamics Simulation on Dissolution of Subcritical Water in Heavy Oil: (I) Effect of Polycyclic Aromatic Hydrocarbons. Journal of Petroleum Science and Engineering. 2022 · 217, 110934.
- 4.Yun-Fei Sun, Xue-Feng Chen, Jin-Yi Yang, Zi-Bin Huang, Pei-Qing Yuan*. A Molecular Dynamics Simulation on Dissolution of Subcritical Water in Heavy Oil: (II) Effect of Heterocyclic Aromatic Hydrocarbons. Journal of Petroleum Science and Engineering. 2022, 217, 110893.
- 5.Rong Wang, Li-Tao Wang, Lu-Hai Wang, Yin-Dong Liu, Jing-Yi Yang, Zi-Bin Huang*, Pei-Qing Yuan*. Initiator-introduced heavy oil visbreaking in supercritical benzene. Journal of Analytical and Applied Pyrolysis, 2022, 165, 105573.
- 6.Ying-Jie Xu, Yun-Fei Sun, Jing-Yi Yang, Zi-Bin Huang, Pei-Qing Yuan*, Continuous Visbreaking of Heavy Oil in the Presence of Hot Compressed Water, Industrial & Engineering Chemistry Research, 2022, 61, 5129-5140.
- 7.Li-Tao Wang, Yu-Yang Hu, Lu-Hai Wang, Ya-Kun Zhu, Hua-Jie Zhang, Zi-Bin Huang, Pei-Qing Yuan*, Visbreaking of Heavy Oil with High Metal and Asphaltene Content, Journal of Analytical and Applied Pyrolysis, 2021, 159, 105336.
- 8.Hua-Jie Zhang, Yu-Yang Hu, Li-Tao Wang, Ya-Kun Zhu, Zi-Bin Huang, Pei-Qing Yuan*. Reaction Kinetics Analysis of Heavy Oil Visbreaking with Reduced Diffusion Limitation. Journal of Analytical and Applied Pyrolysis, 2021, 159, 105296.
- 9.Hao Ling, Yu-Yang Hu, Ya-Kun Zhu, Hua-Jie Zhang, Zhi-Cai Shao, Li-Shun Dai, Zi-Bin Huang, and Pei-Qing Yuan, Visbreaking of Heavy Oil in a Mixed Solvent of Subcritical Water and Light Aromatics, Industrial & Engineering Chemistry Research, 2021, 60, 9059-906.
- 10.Yu-Hui Wang, Li-Tao Wang, Zhi-Zhen Yao, Jun-Jian Yin, Zi-Bin Huang, Pei-Qing Yuan*, Wei-Kang Yuan, Hydrogen abstraction of alkyl radicals from polycyclic aromatic hydrocarbons and heterocyclic aromatic hydrocarbons, Chemical Engineering Science, 2021, 232, 116342.
- 11.Xue-Feng Chen, Zhi-Jian Da, Jian-Hong Gong, Hua-Jie Zhang, Ya-Kun Zhu, Jing-Yi Yang, Pei-Qing Yuan*, Wei-Kang Yuan. Demetallization of Heavy Oil through Pyrolysis: A Reaction Kinetics Analysis. AIChE Journal. 2021, 67, e17086.
- 12.Jing-Cao Pu, Moumouni Doka Dari, Xu-Quan Tang, Pei-Qing Yuan*. Diffusion of Benzene through Water Film Confined in Silica Mesopores: Effect of Competitive Adsorption of Solvent. Chemical Engineering Science, 2020, 224, 115793.
- 13.Xu-Quan Tang, Jing-Cao Pu, Hong-Bing Zheng, Xu-De Yu, Xue-Feng Chen*, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan. Demetallization of Heavy Oils of High Metal Content through Pyrolysis under Supercritical Water Environment. Energy & Fuels, 2020, 34, 2861-2869.
- 14.Xue-Qin Liu, Hao Qu, Jing-Yi Yang, Pei-Qing Yuan*, Wei-Kang Yuan · Visbreaking of Heavy Oil in Supercritical Benzene, Energy & Fuels, 2019, 33, 1074-1082.
- 15.Hao Qu, Jian-Hong Gong, Xue-Cai Tan, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Dissolution of polycyclic aromatic hydrocarbons in subcritical and supercritical water: A molecular dynamics simulation study, Chemical Engineering Science, 2019, 195, 958-967.
- 16.Yong Chen, Li-Tao Wang, Hao Qu, Jing-Yi Yang*, Pei-Qing Yuan*, Wei-Kang Yuan, Pour point reduction of waxy crude oil by pyrolysis in supercritical methanol, Industrial & Engineering Chemistry Research, 2018, 57, 11833-11841.
- 17.Xue-Lian Yu, Yan Li, Shuang-Mei Xin, Pei-Qing Yuan*, Wei-Kang Yuan, Partial hydrogenation of benzene to cyclohexene on Ru@XO2 (X=Ti, Zr or Si), Industrial & Engineering Chemistry Research, 2018, 57, 1961-1967.
- 18.Jun Liu, Yu Xing, Yi-Xiao Chen, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Visbreaking of Heavy Oil under Supercritical Water Environment, Industrial & Engineering Chemistry Research, 2018, 57, 867-875.
- 19.Kai Wang, Liu-Yi Bao, Yu Xing, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Demetalization of Heavy oil Based on the Preferential Self-assembly of Heavy Aromatics in Supercritical Water, Industrial & Engineering Chemistry Research, 2017, 56, 12920 □ 12926.
- 20.Qing-Kun Liu, Yan Xu, Xue-Cai Tan, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Pyrolysis of Asphaltenes in Subcritical and Supercritical Water: Influence of H-Donation from Hydrocarbon Surroundings, Energy & Fuels, 2017, 31, 3620-3628.
- 21.Yi Chen, Kai Wang, Jing-Yi Yang, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Dealkylation of Aromatics in Subcritical and Supercritical Water: Involvement of Carbonium Mechanism, Industrial & Engineering Chemistry Research, 2016, 55, 9578-9585.
- 22.Shuang-Mei Xin, Qing-Kun Liu, Kai Wang, Yi Chen, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Solvation of Asphaltenes in Supercritical Water: A Molecular Dynamics Study, Chemical Engineering Science, 2016, 146, 115-125.
- 23.Qing-Kun Liu, Dao-Qi Zhu, Xue-Cai Tan, Jing-Yi Yang, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Lumped reaction kinetic models for pyrolysis of heavy oil in the presence of supercritical water, AIChE Journal, 2016, 62, 207-216.
- 24.Dao-Qi Zhu, Qing-Kun Liu, Xue-Cai Tan, Jing-Yi Yang, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Structural Characteristics of Asphaltenes Derived from Condensation of Maltenes in Supercritical Water, Energy & Fuels, 2015, 29, 7807-7815.
- 25.Xue-Cai Tan, Qing-Kun Liu, Dao-Qi Zhu, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Pyrolysis of heavy oil in the presence of supercritical water: The reaction kinetics in different phases, AIChE Journal, 2015, 61, 857-866.
- 26.Xue-Cai Tan, Chun-Chun Zhu, Qing-Kun Liu, Tian-Yi Ma, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Co-pyrolysis of heavy oil and low density polyethylene in the presence of supercritical water: The suppression of coke formation, Fuel Processing Technology, 2014, 118, 49-54.
- 27.Chun-Chun Zhu, Chong Ren, Xue-Cai Tan, Gong Chen, Pei-Qing Yuan*, Zhen-Min Cheng, Wei-Kang Yuan, Initiated pyrolysis of heavy oil in the presence of near-critical water, Fuel Processing Technology, 2013, 111, 111-117.
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- 31.Pei-Qing Yuan, Chun-Chun Zhu, Ying Liu, Fan Bai, Zhen-Min Cheng, Wei-Kang Yuan, Solvation of hydrocarbon radicals in sub-CW and SCW: An ab initio MD study, The Journal of Supercritical Fluids, 2011, 58, 93-98.
- 32.Pei-Qing Yuan, Ying Liu, Fan Bai, Liang Xu, Zhen-Min Cheng, Wei-Kang Yuan, Hydration of cyclohexene in sub-critical water over WOx-ZrO2 catalysts, Catalysis Communications, 2011, 12, 753-756.
- 33.Pei-Qing Yuan, Yue-Ming Ma, Xiao-ke Li, Bing-Qiang Wang, Zhen-Min Cheng, Wei-Kang Yuan, Hydrophilic property of Ru(0001) with or without H adatoms, Journal of Molecular Structure: THEOCHEM, 2010, 942, 77-82.
- 34.Pei-Qing Yuan, Bing-Qiang Wang, Yue-Ming Ma, Hui-Min He, Zhen-Min Cheng, Wei-Kang Yuan, Partial hydrogenation of benzene over the metallic Zn modified Ru-based catalyst, Journal of Molecular Catalysis A: Chemical, 2009, 309, 124-130.
- 35.Pei-Qing Yuan, Bing-Qiang Wang, Yue-Ming Ma, Hui-Min He, Zhen-Min Cheng, Wei-Kang Yuan, Hydrogenation of cyclohexene over Ru-Zn/Ru(0001) surface alloy: A first principles density functional study, Journal of Molecular Catalysis A: Chemical, 2009, 301, 140-145.
- 36.Pei-Qing Yuan, Ning Kong, Raphael Semiat, Electrostatic potential on antiscalant modified CaCO3 (104) surface: A molecular simulation study, Desalination, 2009, 238, 246-256.
- 37.Pei-Qing Yuan, Zhen-Min Cheng, Zhi-Ming Zhou, Wei-Kang Yuan, Raphael Semiat, Zeta potential on the anti-scalant modified sub-micro calcite surface, Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 328, 60-66.
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- 39.Pei-Qing Yuan, Zhen-Min Cheng, Xiang-Yang Zhang, Wei-Kang Yuan, Catalytic denitrogenation of hydrocarbons through partial oxidation in supercritical water, Fuel, 2006, 85, 367-373.
- 40.Pei-Qing Yuan, Zhen-Min Cheng, Wei-Lai Jiang, Rui Zhang, Wei-Kang Yuan, Catalytic desulfurization of residual oil through partial oxidation in supercritical water, The Journal of Supercritical Fluids, 2005, 35, 70-75.