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| **Name：** | Zhang Longli | | | | 正式照片E:\化学系 2021\化学系 2021 春季\个人\张龙力 证件照.jpg |
| **Academic Title：** | Professor | | | |
| **Advisor Type：** | Doctoral guidance, Master Tutor | | | |
| **Department：** | Department of Chemistry | | | |
| **Research Interests：** | Physical Chemistry, Petrochemical, Petroleum Processing, Oilfield Chemistry, Oil Production Chemistry | | | |
| **E-Mail：** | *llzhang@upc.edu.cn* | | | |
| **Telephone：** | 86-532-86983374 | | | |
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| **◎Educational Background** | | | | | |
| 1993-1997, Bachelor of Science, Department of Refining, University of Petroleum (East China);  1997-1999, Department of Refining, University of Petroleum (East China), Master of Engineering;  1999-2004, School of Chemistry and Chemical Engineering, China University of Petroleum (East China), Doctor of Engineering  2012-2013, Visiting Scholar of the Department of Earth Science and Environment of Cornell University, KAUST Cornell University "Energy and Environmental Sustainable Development Research Center" National Education Commission | | | | | |
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| **◎Work Experience** | | | | | |
| 2004.3-2006.11, Lecturer, Department of Chemistry, China University of Petroleum (East China)  2006.12-2011.4, Associate Professor, Department of Chemistry, China University of Petroleum (East China)  2011.5-2016.12, Associate Professor and Deputy Director of Department of Chemistry, China University of Petroleum (East China)  2017.1-2018.10, Professor and Deputy Director of Department of Chemistry, China University of Petroleum (East China)  November, 2018 to now, Professor and Head of Department of Chemistry, China University of Petroleum (East China) | | | | | |
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| **◎Research Direction** | | | | | |
| [1] Physical Chemistry  [2] Petrochemical, petroleum processing  [3] Petroleum colloid chemistry, oilfield chemistry, oil production chemistry | | | | | |
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| **◎Research Project** | | | | | |
| In recent years, the representative scientific research projects hosted are:  [1] Sub task of national major oil and gas special research: Research on composite efficiency enhancement technology for offshore heavy oil thermal recovery, 2016-2020;  [2] General project of the National Natural Science Foundation of China: Research on Electrical Response of Heavy Oil Asphaltene Association Behavior and Mesoscale Behavior, 2016-2019;  [3] National Natural Science Foundation of China: Semi quantitative Study on Colloid Stability and Colloid Model of Heavy Oil, 2006-2008;  [4] National Natural Science Foundation of China: Study on Dispersion State and Stability Mechanism of Asphaltene in Heavy Oil, 2008-2010;  [5] Enterprise Cooperation Project: Research and Application of High Efficiency Recovery Technology for Difficult to Produce Super Heavy Oil Stability Test and Analysis and Evaluation of Agglomeration Behavior of Different Crude Oils in Shunbei, 2020  [6] Enterprise cooperation project: optimization and performance evaluation of heavy oil thermal composite upgrading system, 2021  [7] Enterprise cooperation project: composition and structure characterization analysis of crude oil after biodegradation, 2020  [8] Enterprise cooperation project: Study on the compound action mechanism of CO2 and additives on viscosity reduction of heavy oil, 2019-2020;  [9] Enterprise cooperation project: Research on the development and performance of efficient asphalt dispersion inhibitor, 2018-2019;  [10] Top talent project for young teachers, school level, 2010.1-2012.12;  [11] Enterprise cooperation project: micelle morphology test of heavy oil before and after catalytic reaction, 2011;  [12] Enterprise cooperation project: Dipole moment and average molecular structure test before and after high-temperature hydrothermal cracking, 2012;  [13] Supported by the National Synchrotron Radiation Laboratory, Institute of High Energy Physics, Chinese Academy of Sciences: Study on the Structure of Sulfur Element in Asphaltene Sub component, 2012-2016  [14] Enterprise cooperation project: research and application of high efficiency recovery technology for difficult to produce super heavy oil - stability test and analysis and evaluation of sedimentation behavior of different crude oils in Shunbei, 2020-2021. | | | | | |
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| **◎Representative Papers and Patents** | | | | | |
| 1. Paper  [1] Zhang Long-Li\*, et al. Relationships between electrical conductivity variation and coking characteristics of residue during thermal reaction through online equipment，Energy & Fuels，30（6）:5404-5410，2016  [2] Zhang Long-Li\*, Yang Chao-He, Wang Ji-Qian, Yang Guo-Hua, Li Li, Li Yan, Cathles Lawrence, Study on the dipole moment of asphaltene molecules through dielectric measuring. Fuel, Vol. 140, pp. 609-615, 2015  [3] Zhang, Long-Li\*; Yang Guo-Hua; Wang Ji-Qian; Li Yan; Li Li; Yang Chao He, Study on the democracy, stability, and stacking characteristics of asphaltenes, Fuel, Vol. 128, pp. 366-372, 2014  [4] Zhang Longli \*, Wang Chunlan, Zhao Yuansheng, Yang Guohua, Su Mei, Yang Chaohe XANES Derivative Spectral Study of Sulfur Containing Structure of Petroleum Asphaltenes Journal of Fuel Chemistry, Vol. 41, No. 11, pp. 1328-1335, 2013. This article is recommended to be published in the English version of the journal in cooperation with Elsevier  [5] Zhang Longli \*, Wang Chunlan, Zhao Yuansheng, Yang Guohua, Yang Chaohe Study on the relationship between the morphology and properties of asphaltene sulfur-containing functional groups of Tahe atmospheric residue, Journal of Fuel Chemistry, Vol. 40, No. 9, pp. 1081-1085, 2012. This article is recommended to be published in the English version of the journal in cooperation with Elsevier  [6] Zhang Longli \*, Liu Dingdong, Zhao Yusheng, Yang Guohua, Yang Chaohe, Xing Xueqing Study on the size change of asphaltene aggregate during nitrogen thermal stress of Saudi vacuum residue, Journal of Fuel Chemistry, Vol. 41, No. 1, pp. 46-52, 2013  [7] Zhang Longli \*, Yang Guohua, Que Guohe, Yang Chaohe, et al., Study on colloid stability change during nitrogen and hydrogen thermal reaction of Dagang atmospheric residue, Journal of Fuel Chemistry, 39 (9): 682-688, 2011  [8] Zhang Longli \*, Yang Guohua, Que Guohe, Yang Chaohe, et al., Ultrasonic and Homogeneous Complexation Extraction of Metals in Asphaltenes, Chemical Progress, Volume 30, Issue 3, Pages 488-491, 2011  [9] Zhang Longli \*, Wang Shantang, Yang Guohua, et al., Study on the chemical mechanism of heavy oil viscosity reduction by carbon dioxide, Journal of Petrochemical University, Volume 24, Issue 2, Pages 1-5, 2011  [10] Zhang Longli \*, Yang Guohua, Que Guohe, Yang Chaohe, et al. Study on the relationship between the colloidal stability of atmospheric vacuum residue and the properties of components, Journal of Higher School of Petrochemical Engineering, Volume 23, Issue 3, Pages 6-10, 2010  [11] Zhang Longli \*, Yang Guohua, Que Guohe, Yang Chaohe, et al. Preliminary Study on the Improvement of Residual Oil Colloid Stability by Ultrasonic Treatment, Journal of Petroleum (Petroleum Processing), Volume 26, Issue S1 (Supplement), 2010  [12] Zhang Long-li\*, Yang Guo-hua， Que Guo-he, Yang Chao-he, Shan Hong-hong. Dipole moment variation of petroleum residue during catalytic upgrading and thermal upgrading。 Energy&Fuels, Vol. 23, No. 4, 2086-2089, 2009  [13] Zhang Longli \*, Yang Guohua, Que Guohe, Yang Chaohe, etc Conductivity Study of Atmospheric Residue Components, Journal of Petroleum (Petroleum Processing), Volume 25, No. 4, pp. 577-581, 2009  [14] Zhang Longli, Yang Guohua, Que Guohe, et al. The relationship between the colloidal stability of residue and the thermal reaction coking performance. Journal of Colleges and Universities of Petrochemical Industry, 2005, Vol.18 (1): 4-6  [15] Zhang Longli, Yang Guohua, Que Guohe, et al. The association change law of asphaltene during the thermal reaction of Middle East atmospheric residue. Journal of Fuel Chemistry, 2004, Vol.32 (2): 171-174  [16] Zhang L, Yang G H, Sun Z C, et al. Study on colloidal stability of several kinds of residue by mass fraction conductivity method Journal of Fuel Chemistry, 2003; 31(2)：115-118  [17] Zhang Longli, Zhang Shijie, Yang Guohua, et al. Colloid stability during thermal reaction of atmospheric residue Journal of Petroleum (Petroleum Processing), 2003; 19(2)：82-87  [18] Zhang L, Yang G H, Sun Z C, et al. Study on asphaltene precipitation in Middle East atmospheric residue by mass fraction conductivity method Journal of Petroleum (Petroleum Processing), 2002; 18(6):56-60  [19] Zhang L, Yang G H, Sun Z C, et al. Research progress in ultrasonic dispersion of asphaltene Applied Acoustics, 2002; 21（2）:30-34  [20] Study on the hydrogenation reaction and coking behavior of Golmud residue, Bian Yuqing, Zhao Yuansheng, Zhang Longli \*, Zhao Yusheng, Yang Chaohe, Journal of Fuel Chemistry, 2019, 47 (8): 1016-1024  [21] Effect of reaction conditions on basic nitrogen compounds in residue hydrotreating products Qiao Jinshuai, Zhao Yusheng, Cao Zhezhe, Chen Pengwei, Zhao Lin, Yang Hengkui, Zhang Longli \* Petroleum Refining and Chemical Industry, 2018, 49 (3): 35-40  [22] Free radical initiators enhance viscosity reduction behavior of catalytic hydrothermal cracking of heavy oil, Liu Yigang, Zhan Xuecheng, Zou Jian, Zhang Longli \*, Wang Qiuxia, Zhang Hua, Zhou Fayuan Chinese Science: Chemistry, 2018, (04): 451-458  [23] Review on the influence of resin and asphaltene on the colloidal stability of residue Qiao Jinshuai, Zhang Longli \*, Chen Pengwei, Cao Zhezhe, Shan Honghong Applied Chemistry, 2017, 46 (6): 1180-1184  [24] Co catalysis of bifunctional ligand modified Ir catalyst in "hydroformylation acetalation" tandem reaction, Yang Da, Zhang Longli \*, Liu Huan \*, Journal of Chemistry, 2021, 79, 658-662  [25] Co analysis for hydroamidocarbonylation of alkynes with amines over a bifunctional ligand based Pd catalyst, Yang Da, Zhou Guangzhao, Zhang Longli \*, Liu Huan \*, Chemistry An Asian Journal, 2021, 16, 1-6  [26] Study on solubility of iron and calcium containing compounds in residue hydrogenation reaction samples, Wang Xianyuan, Zhang Tao, Zhang Longli \*, Zhao Yusheng, Bian Yuqing, Yang Chaohe, Journal of Fuel Chemistry, 49 (6): 771-7792021  2. Patents  [1] A manufacturing method of small electrode constant electrode, ZL2013102822769, 2017  [2] Monitoring device for coke formation from thermal reaction of heavy oil and online monitoring method using this device, ZL201410472174.8, 2016  [3] A device and method for characterizing the stability of heavy oil, ZL201410136478.7, 2016  [4] On line monitoring method using high-temperature and high-pressure reactor electrode, ZL201310300484.7, 2015  [5] A viscosity reducer for hydrothermal catalytic cracking of heavy oil and its preparation and purification method, ZL201510713134.2, 20182. | | | | | |
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| **◎Representative Works** | | | | | |
| [1] Petroleum Composition and Transformation Chemistry, Que Guohe, editor in chief, Zhang Longli and other 12 editors. China University of Petroleum Press, 1.218 million words, 2008. | | | | | |
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| **◎Awards and Honors** | | | | | |
| [1] Deep delayed coking technology to improve light oil yield, the second prize of National Science and Technology Progress Award, 2017, ranked sixth;  [2] Deep delayed coking technology to improve light oil yield, the first prize of Science and Technology Progress Award (4/6) of China Petroleum and Chemical Industry Federation, ranked 4th in 2016;  [3] Coking furnace technology with high caustic scale and low coking rate, the second prize of Shandong Science and Technology Progress Award (4/6), ranked 4th in 2017;  [4] He was selected as the first top talent construction project for young teachers in the school. The construction period: 2010.1-2012.12, independent;  [5] Hou Xianglin Petroleum Processing Science and Technology Award (Doctoral Award) of China Science and Technology Development Foundation, 2005, independent;  [6] Chemical composition of heavy oil and its transformation theory, China Petroleum and Chemical Industry Association, ranking 4th;  [7] The fifth batch of top talents in Qingdao West Coast New Area, 2021;  [8] Excellent doctoral dissertation of China University of Petroleum, 2005, independent;  [9] The third prize of excellent scientific research achievements of Shandong institutions of higher learning, ranked first in 2006;  [10] China University of Petroleum (East China), the second prize of excellent scientific research achievements, ranked first in 2006;  [11] Excellent teacher of China University of Petroleum (East China), 2005;  [12] Excellent Teacher of China University of Petroleum (East China), 2011;  [13] Excellent Party Member of China University of Petroleum (East China), 2019;  [14] Excellent Party Member of China University of Petroleum (East China), 2021;  [15] "Good teacher and helpful friend" -- the nomination award of good mentor in the minds of graduate students, 2014. | | | | | |
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| **◎Courses Offered** | | | | | |
| Undergraduate：《Physical Chemistry (2-1)》, 《Physical Chemistry (2-2)》, 《Physical Chemistry Experiment》, 《Subject Lectures on Frontier Knowledge》  Postgraduate: 《New Progress in Colloid and Interface Chemistry》 | | | | | |
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| **◎Student Training** | | | | | |
| 1. Supervise Postgraduate Students  There are 4 doctoral students, 25 academic students and 10 professional master students. There are 27 graduate students, mainly working in scientific research institutes, design institutes, oilfield research institutes, oil refineries, schools and other posts.  2. Typical students:  Liu Dingdong, a 2012 graduate, served as the safety director and office director of the Company;  Ma Shinan, a graduate of 2016, is a teacher at Shandong University of Science and Technology;  3. Major and Requirements of Enrollment  PhD student: Chemistry;  Master student: Chemistry;  Professional Master: Materials and Chemical Engineering | | | | | |
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| **◎Part-time Academic Job** | | | | | |
| [1] Member of Academic Committee of Shandong Provincial Key Laboratory of Heavy Oil Recovery Technology;  [2] Researcher of State Key Laboratory of Heavy Oil  [3] Member of the innovation team of the Ministry of Education, "Green Chemistry and Engineering for Efficient Transformation of Heavy Oil",  [4] Reviewer of Energy&Fuels, Journal of Fuel Chemistry and other academic journals;  [5] Member of the Editorial Committee of Journal of Petrochemical University. | | | | | |
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