附件2

《高抗污染聚合物分离膜结构设计及性能调控研究》公示内容

由**申向、陈莉、赵义平、刘鹏**完成的《高抗污染聚合物分离膜结构设计及性能调控研究》拟提名2025年度云南省自然科学奖项目，现将该项目的基本情况公示如下：

一、项目名称

高抗污染聚合物分离膜结构设计及性能调控研究

二、拟提名等级

拟提名云南省自然科学奖三等奖

三、主要论文专著目录

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| --- | --- | --- | --- | --- | --- | --- |
| **序号** | **作者** | **题目** | **期刊** | **他引总次数** | **影响因子** | **分区(大类)** |
| 1 | Jie Hu, Shenglin Yuan , Wensha Zhao , Caiwang Li , Peng Liu \*, Xiang Shen\* | Fabrication of a superhydrophilic/underwater superoleophobic PVDF membrane via thiol–ene photochemistry for the oil/water separation | Colloids and Surfaces A: Physicochemical and Engineering Aspects | 12 | 4.9 | SCI2区 |
| 2 | Jianlong Hu, Yingfang He, Peng Liu,Xiang Shen\* | Antifouling improvement of a polyacrylonitrile membrane blended with an amphiphilic copolymer. | International Polymer Processing |  | 1.1 | SCI4区 |
| 3 | Hu, Jianlong, Zhu, Xuanren, Xie, Deqiong, Peng, Xianya, Zhu, Meng, Cheng, Feixiang, Shen, Xiang\* | Antifouling enhancement of polyacrylonitrile-based membrane grafted with poly(sulfobetaine methacrylate) layers | Journal of Polymer Engineering | 2 | 1.7 | SCI4区 |
| 4 | Xiang Shen\*, Peng Liu, Chixian He, Shubiao Xia, Jianjun Liu, Feixiang Cheng\*, Hongbo Suo, Yiping Zhao, Li Chen\* | Surface PEGylation of polyacrylonitrile membrane via thiol-ene click chemistry for efficient separation of oil-in-water emulsions | Separation and Purification Technology | 20 | 8.2 | SCI1区 |
| 5 | Xiang Shen,\* Teng Liu, Shubiao Xia, Jianjun Liu, Peng Liu, Feixiang Cheng,\* Chixian He | Polyzwitterions Grafted onto Polyacrylonitrile Membranes by Thiol−Ene Click Chemistry for Oil/Water Separation | Industrial & Engineering Chemistry Research. | 19 | 3.8 | SCI3区 |
| 6 | Xiang Shen\*, Peng Liu, Shubiao Xia, Jianjun Liu, Rui Wang, Hua Zhao, Qiuju Liu, Jiao Xu, Fan Wang | Anti-Fouling and Anti-Bacterial Modification of Poly(vinylidene fluoride) Membrane by Blending with the Capsaicin-Based Copolymer | Polymers | 24 | 4.7 | SCI2区 |
| 7 | Xiang Shen\*, Peng Liu, Jiao Xu, Teng Liu, Jianjun Liu, Xianfu Shen, Shubiao Xia, Fan Wang | Covalent Immobilization of Arginine onto Polyacrylonitrile-Based Membrane for the Effective Separation of Oil/Water Emulsion | Macromolecular Research | 4 | 2.8 | SCI4区 |
| 8 | Xiang Shen, Tiande Xie, Jiangang Wang, Fan Wang. | Improved fouling resistance of poly(vinylidene fluoride)membrane modified with poly(acryloyl morpholine)-based amphiphilic copolymer | Colloid and Polymer Science | 11 | 2.2 | SCI4区 |
| 9 | Xiang Shen, Tiande Xie, Jiangang Wang, Peng Liu, Fan Wang. | An anti-fouling poly(vinylidene fluoride) hybrid membrane blended with functionalized ZrO2 nanoparticles for efficient oil/water separation | RSC Advances | 38 | 3.9 | SCI3区 |
| 10 | Xiang Shen, Youzhi Gao, Yang He, Yiping Zhao, Li Chen.  | Preparation and anti-fouling property of carboxybetaine-based zwitterionic PVDF membrane | Separation Science and Technology | 10 | 2.4 | SCI4区 |
| 11 | Xiang Shen, Jie Liu, Yiping Zhao, Li Chen. | Preparation and anti-fouling property of acryloylmorpholine-grafted PVDF membrane: The effect of cross-linking agent | International Polymer Processing | 1 | 1.1 | SCI4区 |
| 12 | Xiang Shen, Yiping Zhao, Li Chen. | Polycation-grafted poly(vinylidene fluoride) membrane with biofouling resistance | Chemical Engineering & Technology | 6 | 1.8 | SCI3区 |
| 13 | Xiang Shen, Xuebin Yin, Yiping Zhao, Li Chen. | Antifouling enhancement of PVDF membrane tethered with polyampholyte hydrogel layers | Polymer Engineering and Science | 15 | 3.2 | SCI3区 |
| 14 | Xiang Shen, Xuebin Yin, Yiping Zhao, Li Chen. | Improved protein fouling resistance of PVDF membrane grafted with the polyampholyte layers | Colloid and Polymer Science. | 24 | 2.2 | SCI3区 |
| 15 | Xiang Shen, Jie Liu, Yiping Zhao, Li Chen. | Preliminary investigation on hemocompatibility of poly(vinylidene fluoride) membrane grafted with acryloylmorpholine via ATRP.  | Journal of Biomedical Materials Research. Part A | 24 | 3.9 | SCI2区 |
| 16 | Xiang Shen, Yiping Zhao, Xia Feng, Sixin Bi, Wenbin Ding, Li Chen. | Improved anti-fouling property of PVDF membrane modified with oppositely charged copolymer. | Biofouling. | 27 | 2.6 | SCI3区 |
| 17 | Xiang Shen, Yiping Zhao, Li Chen.  | The construction of a zwitterionic PVDF membrane surface to improve biofouling resistance.  | Biofouling | 30 |  2.6 | SCI3区 |
| 18 | Jie Liu, Xiang Shen, Yiping Zhao, Li Chen. | Acryloylmorpholine-grafted PVDF membrane with improved protein fouling resistance. | Industrial & Engineering Chemistry Research. | 113 | 3.8 | SCI2区 |
| 19 | 申向，刘开全，刘鹏，姚思杰，吕妮娜，张永金，汪帆 | 辣素衍生物改性PVDF膜的制备及其抗菌性能 | 化工进展 |  |  |  |
| 20 | 申向, 尹学彬, 赵义平, 陈莉. | 聚两性电解质修饰聚偏氟乙烯膜的制备及抗污染性能 | 高分子材料科学与工程. |  |  |  |

四、主要完成单位

曲靖师范学院、天津工业大学

五、主要完成人基本情况

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