

Publications of Professor De-Yi Wang

D) Scientific Articles list:

2024

351. Zhang Mingyang, Xiao Junchen, Tang Wei, He Yi, Tan Peng, Haranczyk Maciej, Wang De-Yi*. A Novel Benchmarking Approach to Assess Fire Safety of Liquid Electrolytes in Lithium-Ion Batteries. *Advanced Energy Materials*. 2024, 14, 2401241. <https://doi.org/10.1002/aenm.202401241>

350. Wei Cai, Liangyuan Qi, Tianyang Cui, Bicheng Lin, Mohammad Ziaur Rahman, Xin Hu, Yang Ming, Ah Pun Chan, Weiyi Xing,* De-Yi Wang,* Bin Fei,* and Jintu Fa. Chameleon-Inspired, Dipole Moment-Increasing, Fire-Retardant Strategies Toward Promoting the Practical Application of Radiative Cooling Materials. *Advanced Functional Materials*, 2024, 2412902. <https://doi.org/10.1002/adfm.202412902>

349. Ao Xiang, Xiao Junchen, Muñoz Gloria Guerrero, González Carlos*, Wang De-Yi*. Protective Coating Performance for Structural Integrity of Polymer Composites in Fire: Novel Bench Scale Instrument Design and Coupon Level Test. *Composite Science and Technology*. 2024, 257, 110830. <https://doi.org/10.1016/j.compscitech.2024.110830>

348. Zhang Mingyang, Yusuf Abdulmalik, Wang De-Yi*. A Novel Hierarchical “Ceramic in Polymer – Polymer in Ceramic” Structure Composite Solid-state Electrolyte for Safer Lithium-Ion Batteries. *Journal of Power Sources*, 2024, 591: 233812. <https://doi.org/10.1016/j.jpowsour.2023.233812>

347. Jin Xu, Zhang Jing, Wang Bin*, Li Xiaolu, Zeng Jing, Ma Jiayu, Zhao Ximeng, Wu Wenqi, del Río Saeza José Sánchez, Zhang Xiuqin*, Wang De-Yi, Wang Rui. Multifunctional polylactic acid sensing fabric based on biomass flame retardants for intelligent fire early-warning. *International Journal of Biological Macromolecules*. 2024, 259, 129158. <https://doi.org/10.1016/j.ijbiomac.2023.129158>

346. Shi Xiao-Hui*, Shi Hong, Xie Wei-Min, Liu Qing-Yun, Wu Shi-Jie, Wang De-Yi. Organic copper phosphate-decorated layered double hydroxide to enhance the flame retardancy and smoke suppression of epoxy resin. *Polymer Degradation and Stability*. 2024, 220, 110664. <https://doi.org/10.1016/j.polyimdegradstab.2024.110664>

345. Lihong Liu, Yan Zhang*, Tengting Wang, Changchang Ma, Zhengping Fang, Deyi Wang. Dependence of flame retardancy and smoke suppression properties of chloroprene rubber on zinc borate and antimony trioxide loadings. *Materials Today Chemistry*, 2024, 36, 101966. <https://doi.org/10.1016/j.mtchem.2024.101966>

344. Xiao-Hui Shi*, Xue-Lin Li, Hong Shi, Qing-Yun Liu, Wei-Min Xie, Shi-Jie Wu, Nan Zhao, De-Yi Wang*. Insight into the flame-retardant mechanism of different organic-modified layered double hydroxide for epoxy resin. *Applied Clay Science*, 2024, 248,107233. <https://doi.org/10.1016/j.clay.2023.107233>

343. Zhou Mei-Hui, Ao Xiang, Islam Monsur, Liu Yu-Yao, Prolongo Silvia González, Wang De-Yi*. Bio-based epoxy vitrimer with inherent excellent flame retardance and recyclability via molecular design. *International Journal of Biological Macromolecules*. 2024, 129363. <https://doi.org/10.1016/j.ijbiomac.2024.129363>

342. Bi Xue, Song Kunpeng, Zhang Henglai, Pan Ye-Tang*, He Jiyu, Wang De-Yi, Yang Rongjie*. Dimensional change of red phosphorus into nanosheets by metal–organic frameworks with enhanced dispersion in flame retardant polyurea composites. *Chemical Engineering Journal*.2024, 148997. <https://doi.org/10.1016/j.cej.2024.148997>

341. Xiao-Hui Shi*, Cheng-Yue Jing, Huan Luo, Hong Shi, De-Yi Wang*. A flame retardant coating based on amino acid and phytic acid for cotton fabrics. *Polymer Degradation and Stability*.2024, 230, 111069. <https://doi.org/10.1016/j.polymdegradstab.2024.111069>

340. Yin Guang-Zhong*, López Alba Marta, Collado Ignacio, Vázquez-López Antonio, Ao Xiang, Hobson Jose, Prolongo Silvia G., Wang De-Yi*. MXene multi-functionalization of polyrotaxane based PCMs and the applications in electronic devices thermal management. *Nano Materials Science*, 2024, 6, 495-503. <https://doi.org/10.1016/j.nanoms.2023.12.004>

339. He Lu, Cao Yong, Qu Hui-Ming, Zhang Yong-Kui, Bi Qing-Qing, Wang De-Yi*. Advances in flame retardancy of asphalt pavement: A review. *Advanced Industrial and Engineering Polymer Research*. 2024, 7, 273-294. <https://doi.org/10.1016/j.aiepr.2024.01.001>

338. Yan Wenqing*, de la Vega Jimena, Eroğlu Özen, Heisenberg Lavinia, Wang De-Yi. High Power Sunlight-Simulated UV-Induced Radical Polymerization: Self-Initiation and Self-Crosslinking. *Macromolecular Materials and Engineering*. 2024, 2300456. <https://doi.org/10.1002/mame.202300456>

337. Zhang Lu, Yang Di, Li Zhou*, Zhai Zhanyu, Li Xiaolu, de La Vega Jimena, Wang De-Yi*. Ultrafine iron oxide decorated mesoporous carbon nanotubes as highly efficient flame retardant in epoxy nanocomposites via catalytic charring effect. *Sustainable Materials and Technologies*. 2024, 39, e00845. <https://doi.org/10.1016/j.susmat.2024.e00845>

336. Bi Qing-Qing, Li Ying-Ming*, He Lu, Li Zhi, Wang De-Yi*. Nanoporous flame retardants: Toward asphalt with enhanced fire safety and smoke suppression behavior. *Composites Communications*. 2024, 47, 101869. <https://doi.org/10.1016/j.coco.2024.101869>

335. Vázquez-López Antonio, de la Vega Jimena, Collado Ignacio, Carmona Francisco Javier, Prádanos Pedro, Prolongo Silvia G., Wang De-Yi*. Graphene Oxide/Poly(lactic Acid)-Based Face Mask to Combat H3N2: A Strategy against Influenza. *ACS Applied Nano Materials*. 2024, 7, 6460-6470. <https://doi.org/10.1021/acsanm.4c00183>

334. Cao Jin, Pan Ye-Tang*, Vahabi Henri, Song Jung-il, Song Pingan, Wang De-Yi. Zeolitic

imidazolate frameworks-based flame retardants for polymeric materials. *Materials Today Chemistry*. 2024, 37, 102015. <https://doi.org/10.1016/j.mtchem.2024.102015>

333. Li Ying-Ming*, Li Yi-Ran, Fang Hang-Ping, Wang De-Yi*. Fabrication of multi-dimensional heterostructure towards highly efficient microwave absorbing performance and flame retardancy. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 2024, 695, 134222. <https://doi.org/10.1016/j.colsurfa.2024.134222>

332. Ma De-Xin, Yin Guang-Zhong, Ye Wen, Jiang Yan, Wang Na, Wang De-Yi*. Exploiting Waste towards More Sustainable Flame-Retardant Solutions for Polymers: A Review. *Materials*. 2024, 17, 2266. <https://doi.org/10.3390/ma17102266>

331. Li Ying-Ming*, Zhu Dan-Ping, Hu Shuang-Lin, Jiao Yun-Hong, Xu Jian-Zhong*, Wang De-Yi*. The fabrication of organic-inorganic hybrid structure towards high mechanical property and improved flame retardancy. *Polymer Degradation and Stability*. 2024, 110818. <https://doi.org/10.1016/j.polymdegradstab.2024.110818>

330. Li, Zhi*, Si-Fan Chen, En Tang, Fei-Yang Zhang, Han Li, Bingbing Hu, Qingwen Zeng, and De-Yi Wang*. Isomerism-enabling low-temperature ultrasensitive and moisture-resistant fire-alarming “Guarder” via color changing. *Polymer Degradation and Stability*. 2024, 115, 110831. <https://doi.org/10.1016/j.polymdegradstab.2024.110831>

329. Zhang Jing, Zhang Xiuqin, Wang Rui, Wang Wenqing, Zhao Hui, Yang Shuo, Dong Zhenfeng, Wang De-Yi, Pan Ye-Tang*. Cyclodextrin-based host-guest hierarchical fire retardants: Synthesis and novel strategy to endow polylactic acid fire retardancy and UV resistance. *Carbohydrate Polymers*. 2024, 341, 122313. <https://doi.org/10.1016/j.carbpol.2024.122313>

328. De Hoyos-Martinez Pedro Luis*, Mendez Sebastian Barriga, Martinez Eriz Corro, Wang De-Yi, Labidi Jalel*. Elaboration of Thermally Performing Polyurethane Foams, Based on Biopolyols, with Thermal Insulating Applications. *Polymers*. 2024, 16(2), 258. <https://doi.org/10.3390/polym16020258>

327. Hu Shuang-Lin, Li Ying-Ming*, Fang Hang-Ping, Deng Yao, Wang De-Yi*. Organic-inorganic hybrid modified the halloysite nanotube: Toward vinyl ester resin composites with enhanced flame retardance and mechanical property. *Colloids and Surfaces A: Physicochemical and Engineering*, 2024, 697, 134412. <https://doi.org/10.1016/j.colsurfa.2024.134412>

326. Ao Xiang, Crouse Robert, González Carlos, Wang De-Yi*. Impact of nanohybrid on the performance of non-reinforced biocomposites and glass-fiber reinforced biocomposites: Synthesis, mechanical properties, and fire behavior. *Construction and Building Materials*. 2024, 436: 136922. <https://doi.org/10.1016/j.conbuildmat.2024.136922>

325. Zhang Mingyang, Gomes Maria Benito, Yusuf Abdulmalik, Yin Guang-Zhong, Sun Chang-Chun, Wang De-Yi*. Flame-retardant reinforced halloysite nanotubes as multi-functional fillers for PEO-based polymer electrolytes. *European Polymer Journal*. 2024, 113246. <https://doi.org/10.1016/j.eurpolymj.2024.113246>

324. Han Zhengde, Song Xiaoning, Chen Ziyang, Pan Ye-Tang*, Lai Xuejun*, Wang De-Yi. Half

etching of ZIF-67 towards open hollow nanostructure with boosted absorption ability for toxic smoke and fume in epoxy composites. *Sustainable Materials and Technologies*. 2024, 41, e01024. <https://doi.org/10.1016/j.susmat.2024.e01024>

323. Tang Wei, Qian Lijun*, Prolongo Silvia González, Qiu Yong, Wang De-Yi*. Macromolecular piperazine/aluminum phosphate hybrid and its efficient intumescent flame retardant/thermal conductive polypropylene. *Chemical Engineering Journal*. 2024, 153162. <https://doi.org/10.1016/j.cej.2024.153162>

322. Song Kunpeng, Bi Xue, Wang Dong, Pan Ye-Tang*, Xie Meina*, He Jiyu*, Wang De-Yi, Yang Rongjie. Porous liquids assisted in-situ generated Co-LDH@MOF heterostructure with abundant defects for flame retardant and mechanical enhancement in polyurea composites. *Chemical Engineering Journal*. 2024, 495, 153580. <https://doi.org/10.1016/j.cej.2024.153850>

321. Shi Xiao-Hui*, Shi Hong, Li Xue-Lin, Wu Shi-Jie, Xie Wei-Min, Wang De-Yi*. Polydopamine-primed FeCo-LDH endowed epoxy resin with enhanced flame retardancy and mechanical properties. *Construction and Building Materials*. 2024, 439, 137070. <https://doi.org/10.1016/j.conbuildmat.2024.137070>

320. Xu Jie, Ao Xiang, de la Vega Jimena, Guo Fanhui, Xie Zhipeng, Liang Feng, Wang De-Yi*, Wu Jianjun*. Poly(vinyl alcohol) Composite Aerogel toward Lightweight, Remarkable Flame Retardancy, and Thermal Insulation Properties by Incorporating Carbon Nanohorns and Phytic Acid. *ACS Applied Polymer Materials*. 2024, 6, 8027-8039. <https://doi.org/10.1021/acsapm.4c00729>

319. Shi Xiao-Hui*, Xie Wei-Min, Shi Hong, Wu Shi-Jie, Liu Qing-Yun, Wang De-Yi*. Preparation of phosphorus-containing organic-hybrid layered double hydroxide as a flame retardant for thermoplastic polyurethane. *Applied Clay Science*. 2024, 258: 107489. <https://doi.org/10.1016/j.clay.2024.107489>

318. Ghosh Arnab, Kaur Sukhman, Verma Gulshan, Dolle Christian, Azmi Raheleh, Heissler Stefan, Eggeler Yolita M., Mondal Kunal, Mager Dario, Gupta Ankur, Korvink Jan G.*, Wang De-Yi, Sharma Ashutosh*, Islam Monsur*. Enhanced Performance of Laser-Induced Graphene Supercapacitors via Integration with Candle-Soot Nanoparticles. *ACS Applied Materials & Interfaces*. 2024, 16, 40313-40325. <https://doi.org/10.1021/acsami.4c07094>

317. Xu Jie, Liu Xiangrong, Wang Li, Zhu Yingkun, Ao Xiang, Guo Fanhui, Xie Zhipeng, Liang Feng, Wang De-Yi*, Wu Jianjun*. Designing of carbon nanohorn-based heterostructure for improved mechanical properties, flame retardancy, and hydrophobicity of composite aerogels. *Journal of Polymer Science*. 2024, 62, 4773-4788. <https://doi.org/10.1002/pol.20240355>

316. Li Zhi*, Huang Guan-Bin, Li Han, Zhang Lei, Liu Zhiqi, De La Vega Jimena, Díaz Raquel Sánchez, Zeng Qingwen, Wang De-Yi*. Fire-safe and multifunctional epoxy/layered double hydroxide composites via an interfacial catalysis. *Applied Clay Science*. 2024, 260: 107545. <https://doi.org/10.1016/j.clay.2024.107545>

315. Li Ping, Liu Hui, Xu Ying-Jun*, Wang De-Yi, Liu Yun, Zhu Ping. Flame-retardant and antibacterial flexible polyurethane foams with high resilience based on a P/N/Si-containing system.

Journal of Materials Science & Technology.2024, 182, 141-151.
<https://doi.org/10.1016/j.jmst.2023.09.030>

314. Li, Ying-Ming*, Yi-Ran Li, Hang-Ping Fang, Yao Deng, and De-Yi Wang*. Optimization Design of the Multidimensional Heterostructure toward Lightweight, Broadband, Highly Efficient, and Flame-Retarding Electromagnetic Wave-Absorbing Composites. *ACS Applied Materials & Interfaces*. 2024, 16, 51333–51345. <https://doi.org/10.1021/acsami.4c10557>

313. Wang Rui, Zhang Xiuqin, Yuan Mengfei, Wang De-Yi, Zhang Jing*, Pan Ye-Tang*. Fire Retardancy of Epoxy composites: A Comparative Investigation on the Influence of Porous Structure and Transition Metal of Metal-Organic Framework. *Composites Communications*. 2024, 51, 102087. <https://doi.org/10.1016/j.coco.2024.102087>

312. Shi Xiao-Hui*, Luo Huan, Jing Cheng-Yue, Shi Hong, Wang De-Yi*. The preparation of ammonium polyphosphate@ nickel/cobalt-layered double hydroxide and its application as flame retardant in thermoplastic polyurethane. *Polymer Degradation and Stability*. 2024, 230, 111013. <https://doi.org/10.1016/j.polymdegradstab.2024.111013>

311. Hu Hang, Zhang Lei, Yuan Xue-Hua, Kuai Rong, Li Zhi*, Hu Zhi, Wang De-Yi*. Design, Performance, and Mode of Action of Hyperbranched Fire Retardants: Advancement and Perspective. *ACS Applied Polymer Materials*. 2024, 6, 12081-12111. <https://doi.org/10.1021/acsapm.4c02226>

310. Xiao Junchen, Haranczyk Maciej*, Wang De-Yi*. Prediction of mechanical and flame-retardant properties of MOF-loaded polymer composites. *Chemical Communications*. 2024, 60, 13215-13218. <https://doi.org/10.1039/D4CC04130E>

309. Rai Prince Kumar, Singh Amritanshu, Bishwanathan Shashwat, Gupta Prashant Kumar, Wang De-Yi, Islam Monsur*, Gupta Ankur*. Bi-metallic Electrochemical Deposition on 3D pyrolytic carbon architectures for potential application in hydrogen evolution reaction. *Science and Technology of Advanced Materials*. 2024, 25(1), 2421740. <https://doi.org/10.1080/14686996.2024.2421740>

308. Bi Qing-Qing, Li Ying-Ming*, He Lu, Wang De-Yi*. Bio-derived modified halloysite nanotubes as eco-friendly flame retardants to endow epoxy with high thermal stability, mechanical performance and flame retardancy. *Chemical Engineering Journal*. 2024, 500, 15743. <https://doi.org/10.1016/j.cej.2024.157438>

307. Ozdemir Burcu, Hernández-del-Valle Miguel, Gaunt Maggie, Schenk Christina, Echevarría-Pastrana Lucía, Fernández-Blázquez Juan P., Wang De-Yi, Haranczyk Maciej*. Toward 3D printability prediction for thermoplastic polymer nanocomposites: Insights from extrusion printing of PLA-based systems. *Additive Manufacturing*. 2024, 95, 104533. <https://doi.org/10.1016/j.addma.2024.104533>

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306. Ribeiro Bruno, Vázquez-López Antonio, Vazquez-Pufleau Miguel, Llamós Mirella, Sempere

Julio, Yuste Jose, Domenech Mirian, Wang De-Yi, Vilatela Juan José, Llorca Javier, Echeverry-Rendón Monica*. Control of Microbial Agents by Functionalization of Commercial Air Filters with Metal Oxide Particles. *Materials Chemistry and Physics*, 2023, 313: 128684. <https://doi.org/10.1016/j.matchemphys.2023.128684>

305.Hernández-del-Valle Miguel, Schenk Christina, Echevarría-Pastrana Lucía, Ozdemir Burcu, Dios-Lázaro Enrique, Ilarraza-Zuazo Jorge, Wang De-Yi, Haranczyk Maciej*. Robotically Automated 3D Printing and Testing of Thermoplastic Material Specimens. *Digital Discovery*, 2023, 2, 1969-1979. <https://doi.org/10.1039/d3dd00141e>

304.Ao Xiang, Xiao Junchen, Hobson Jose, de la Vega Jimena, Yin Guangzhong, Puertas Cuadron María Luisa, Esteban Cubillo Antonio, González Carlos, Wang De-Yi*. Bilayer Coating Strategy for Glass Fiber Reinforced Polymer Composites Toward Superior Fire Safety and Post-fire Mechanical Properties. *Composites Communications*, 2023, 44: 101763. <https://doi.org/10.1016/j.coco.2023.101763>

303.Ao Xiang, Vázquez-López Antonio, Mocerino Davide, González Carlos, Wang De-Yi*. Flame Retardancy and Fire Mechanical Properties for Natural Fiber/Polymer Composite: A Review, *Composites Part B: Engineering*, 2023, 268: 11069. <https://doi.org/10.1016/j.compositesb.2023.111069>

302.Xiao Junchen, Hobson Jose, Haranczyk Maciej, Wang De-Yi*. Machine Learning Framework to Predict Instantaneous Heat Release Rate of Polymer Nanocomposites in Cone Calorimetry. *Polymer Degradation and Stability*, 2023, 218, 110563. <https://doi.org/10.1016/j.polymdegradstab.2023.110563>

301.Bi Qing-Qing, Li Ying-Ming*, Zhu Dan-Pin, He Lu, Li Zhi, Wang De-Yi*. Novel Organic-inorganic Hybrid Towards Enhancement of Flame Retardancy, Suppression of Volatile Organic Compounds and Toxic Smokes for Asphalt. *Composites Communications*, 2023, 44: 101742. <https://doi.org/10.1016/j.coco.2023.101742>

300.Yin Guang-Zhong*, Yang Xiao-Mei, Marta López Alba, García Molleja Javier, Vázquez-López Antonio, Wang De-Yi*. Highly Thermal Conductive Boron Nitride/Polyrotaxane Encapsulated PEG-Based Phase Change Materials. *European Polymer Journal*, 2023, 199: 112431. <https://doi.org/10.1016/j.eurpolymj.2023.112431>

299.Li Ying-Ming*, Hu Wen-Juan, Hu Shuang-Lin, Li Yi-Ran, Wang De-Yi*. Fabrication of Organic P-N Aerogel Towards Simultaneously Super Thermal Insulation, Enhanced Compressive Strength, Flame Retardancy and Smoke Suppression for The Rigid Polyurethane Foam. *Chemical Engineering Journal*, 2023, 474: 145803. <https://doi.org/10.1016/j.cej.2023.145803>

298. Li Xiaolu, del Río Sáez José Sánchez, Du Shuanglan, Díaz Raquel Sánchez, Ao Xiang, Wang De-Yi*. Bio-based Chitosan-based Film as a Bifunctional Fire-warning and Humidity Sensor, *International Journal of Biological Macromolecules*. 2023, 253: 126466. <https://doi.org/10.1016/j.ijbiomac.2023.126466>

297.Yin Guang-Zhong, Yang Xiao-Mei, López Alba Marta, Ao Xiang, Wang Mei-Ting, Molleja Javier García, Wang De-Yi*. PLA Aerogel as a Universal Support for the Typical Organic Phase

Change Energy Storage Materials Author links Open Overlay Panel. *Journal of Energy Storage*, 2023, 73: 108869. <https://doi.org/10.1016/j.est.2023.108869>

296. Shi Xiao-Hui*, Li Xue-Lin, Liu Qing-Yun, Wu Shi-Jie, Xie Wei-Min, Zhao Nan, Jimena De La Vega, Chen Ming-Jun, and Wang De-Yi*. Constructing Co-decorated Layered Double Hydroxide via Interfacial Assembly and Its Application in Flame-retardant Epoxy Resin. *Composites Communications*, 2023, 43: 101712. <https://doi.org/10.1016/j.coco.2023.101712>

295. Li Xiaolu, Sánchez del Río Sáez José, Vázquez-López Antonio, Ao Xiang, Sánchez Díaz Raquel, Wang De-Yi*. Eco-friendly Functional Cellulose Paper as a Fire Alarming via Wireless Warning Transmission for Indoor Fireproofing. *Industrial Crops and Products*, 2023, 200: 116805. <https://doi.org/10.1016/j.indcrop.2023.116805>

294. Liu Yu-Yao, Pedro Fernandez Blazquez Juan, Yin Guang-Zhong, Wang De-Yi, Llorca Javier, Echeverry-Rendón Monica*. A Strategy to Tailor the Mechanical and Degradation Properties of PCL-PEG-PCL Based Copolymers for Biomedical Application. *European Polymer Journal*, 2023, 198: 112388. <https://doi.org/10.1016/j.eurpolymj.2023.112388>

293. Yin Guang-Zhong*, Yang Xiao-Mei, López Alba Marta, Molleja Javier García, Wang Mei-Ting, Wang De-Yi*. Graphene Functionalization of Polyrotaxane-Encapsulated PEG-Based PCMs: Fabrication and Applications. *Advanced Materials Technologies*, 2023, 8(19): 2300658. <https://doi.org/10.1002/admt.202300658>

292. Jin Xu, Zhang Jing* Zhu Yanlong, Zhang Anying, Wang Rui, Cui Meng, Wang De-Yi, Zhang xiuqin*. Highly Efficient Metal-organic Framework Based Intumescent Poly(L-lactic acid) Towards Fire Safety, Ignition Delay and UV Resistance, *International Journal of Biological Macromolecules*. 2023, 250: 126127. <https://doi.org/10.1016/j.ijbiomac.2023.126127>

291. Li Ying-Ming*, Li Yi-Ran, Hu Wen-Juan, Wang De-Yi. Designing of an rGO-based Heterostructure for Highly Efficient Microwave Absorption Performance and Flame Retardancy. *Ceramics International*, 2023, 49(20): 32600-32610. <https://doi.org/10.1016/j.ceramint.2023.07.227>

290. Tang Wei, Qian Lijun*, Prolongo Silvia González, Wang De-Yi*. Dendritic Copolymers from P-, N- and Si-based Monomer and Melamine Phosphate Generate Thermal Deformation Toughening and a Rapid Charring Flame Retardant Effect in Polypropylene. *Chemical Engineering Journal*, 2023, 471, 144716. <https://doi.org/10.1016/j.cej.2023.144716>

289. Zhou Mei-Hui, Yin Guang-Zhong, Prolongo Silvia González*, Wang De-Yi. Recent Progress on Multifunctional Thermally Conductive Epoxy Composite. *Polymers*, 2023, 15(13): 2818. <https://doi.org/10.3390/polym15132818>

288. Vázquez-López Antonio, Ao Xiang, del Río Saez José Sánchez, Wang De-Yi*. Triboelectric Nanogenerator (TENG) Enhanced Air Filtering and Face Masks: Recent advances. *Nano Energy*, 2023, 114, 108635. <https://doi.org/10.1016/j.nanoen.2023.108635>

287. Shi Xiao-Hui*, Xie Wei-Min, Wu Shi-Jie, Liu Qing-Yun, De La Vega Jimena, Wang De-Yi*. Facile Fabrication of High-efficiency Reactive Flame Retardant Toward Cotton Fabric with Good

Hand Feeling and High Fire Safety. *Cellulose*, 2023, 30: 7313–7328.
<https://doi.org/10.1007/s10570-023-05306-5>

286. Bosque Antonio*, Sánchez–Romate Xoan F., Patrizi David, del Río Sáez José Sánchez, Wang De-Yi*, Sánchez María, Ureña Alejandro*. Ultrasensitive Flexible Strain Sensors Based on Graphene Nanoplatelets Doped Poly(ethylene glycol) Diglycidyl Ether: Mask Breathing Monitoring for The Internet of Things, *Sensors and Actuators A: Physical*, 2023, 358: 114448.
<https://doi.org/10.1016/j.sna.2023.114448>

285. Qing-Qing Bi, Lei Zhang, Zhi Li*, En Tang, Bingbing Hu, Song Tian, Qingwen Zeng, Jose Hobson, and De-Yi Wang *. Tailored Catalysis Inducing Exceptionally Fire-Safe and Mechanically Reinforced Epoxy at An Ultralow Loading. *ACS Appl. Mater. Interfaces*, 2023, 15, 51, 59838–59853. <https://doi.org/10.1021/acsami.3c15166>

284. Song Kunpeng, Pan Ye-Tang*, Zhang Jing, Song Pingan, He Jiyu*, Wang De-Yi, Yang Rongjie. Metal–Organic Frameworks–Based Flame-Retardant System for Epoxy Resin: A Review and Prospect. *Chemical Engineering Journal*, 2023, 468, 143653.
<https://doi.org/10.1016/j.cej.2023.143653>

283. Shi Xiao-Hui*, Wu Shi-Jie, Xie Wei-Min, Liu Qing-Yun, Yang Si-Yi, Hobson Jose, Wang De-Yi*. Cupric ion Decorated Ammonium Polyphosphate as an Effective Flame Retardant for Thermoplastic Polyurethane. *Journal of Materials Science*, 2023, 58: 9060-9072.
<https://doi.org/10.1007/s10853-023-08554-9>

282. Shi Xiao-Hui*, Wu Shi-Jie, Xie Wei-Min, Li Xue-Lin, Liu Qing-Yun, De La Vega Jimena, Wang De-Yi*. Fabrication of Layered Double Hydroxide@ferric Decorated Polyphosphazene Hybrid Architecture Towards Simultaneously Improved Fire Safety, Smoke Suppression and Mechanical Strength of Epoxy Resin. *Composites Part A: Applied Science and Manufacturing*, 2023, 172: 107602. <https://doi.org/10.1016/j.compositesa.2023.107602>

281. Song Kunpeng, Zhang Henglai, Pan Ye-Tang*, Ur Rehman Zeeshan, He Jiyu*, Wang De-Yi, Yang Rongjie. Metal-organic Framework-derived Bird's Nest-like Capsules for Phosphorous Small Molecules Towards Flame Retardant Polyurea Composites. *Journal of Colloid and Interface Science*, 2023, 643: 489-501. <https://doi.org/10.1016/j.jcis.2023.04.047>

280. Tang En, Li Zhi*, Wu Zhaoguo, Jiang Lin-Yun, Bi Qing-Qing, Zhang Haibing, Zhang Lei, Ran Shi-Yu, de la Vega Jimena, Wang De-Yi*. Ultrafast Catalytic Charring Towards Anti-flammable Thermoplastic Polyurethane with Superior Dripping Suppression and Fire Protection. *Polymer Degradation and Stability*, 2023, 213: 110369.
<https://doi.org/10.1016/j.polymdegradstab.2023.110369>

279. Xiao Junchen, Hobson Jose, Ghosh Arnab, Haranczyk Maciej*, Wang De-Yi*. Flame Retardant Properties of Metal Hydroxide-based Polymer Composites: A Machine Learning Approach. *Composites Communications*, 2023, 40, 101593.
<https://doi.org/10.1016/j.coco.2023.101593>

278. Vázquez-López Antonio, del Río Saez José Sánchez, de la Vega Jimena, Ao Xiang, Wang De-Yi*. All-Fabric Triboelectric Nanogenerator (AF-TENG) Smart Face Mask: Remote Long-Rate

Breathing Monitoring and Apnea Alarm. *ACS Sensors*, 2023,8(4): 1684-1692.
<https://doi.org/10.1021/acssensors.2c02825>

277.Li Yi-Ran, Li Ying-Ming*, Hu Wen-Juan, Wang De-Yi*. Shaped Photothermal Conversion Phase Change Materials with Excellent Electromagnetic Shielding Performance and Flame Retardancy, *Advanced Engineering materials*. 2023, 25: 2201885.
<https://doi.org/10.1002/adem.202201885>

276.Li Zhi, Zhang Xiao-Die, Li Jifeng, Ran Zi-Mou, Lira Sara Isabel Montero, Wang De-Yi*. Hierarchical Engineering of Boron Nitride Nanosheets to Reveal Ignition Mode of Action of Epoxy. *Polymers for Advanced Technologies*, 2023, 34 (6): 1817-1828. <https://doi.org/10.1002/pat.6011>

275.Jiang Lin-Yun, Li Zhi*, Liang Ya-Min, Bi Qing-Qing, Tian Song, Lin Shao-Yu, Hu Zhi, Zheng Yu, Hobson Jose, Wang De-Yi*. High-Efficient Fire-Safe Epoxy Enabled by Bio-Based Atomic-Level Catalytic Engineering. *Chemical Engineering Journal*, 2023, 461: 141967.
<https://doi.org/10.1016/j.cej.2023.141967>

274.Li Yi-Ran, Li Ying-Ming*, Hu Wen-Juan, Zhu Dan-Ping, Hobson Jose, Vázquez-López Antonio, Wang De-Yi*. The Designation of Highly Efficient Intrinsic Flame-retarding Epoxy Materials via the Regulation of the Phosphorus and Nitrogen Content for The Curing Agents. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2023, 664: 131078.
<https://doi.org/10.1016/j.colsurfa.2023.131078>

273.Tang Wei, Qian Lijun*, Prolongo Silvia González, Wang De-Yi*. Small Core of Piperazine/silane Aggregation Initiate Efficient Charring Flame Retardant Effect in Polypropylene Composites. *Polymer Degradation and Stability*, 2022, 208: 110265.
<https://doi.org/10.1016/j.polymdegradstab.2023.110265>

272.Zhang Xiao-Die, Li Zhi*, Jiang Lin-Yun, Bi Qing-Qing, Li Hong-Fang, Wang Jiacheng, de la Vega Jimena, Wang De-Yi*. Osteoarticular-Inspiring Manipulation of Bio-Based Exfoliated Boron Nitride for Fire-Safe, Strong Yet Tough Epoxy, *Applied Surface Science*, 2023, 615, 156316.
<https://doi.org/10.1016/j.apsusc.2022.156316>

271.Zhang Lei, Li Zhi*, Bi Qing-Qing, Jiang Lin-Yun, Zhang Xiao-Die, Tang En, Cao Xue-Meng, Li Hong-Fang, Hobson Jose, Wang De-Yi*. Strong Yet Tough Epoxy with Superior Fire Suppression Enabled by Bio-based Phosphaphenanthrene Towards in-situ Formed Diels-Alder Network. *Composites Part B: Engineering*, 2023, 251: 110490.
<https://doi.org/10.1016/j.compositesb.2022.110490>

270.Wang Meiting, Yin Guang-Zhong*, Yang Yuan, Fu Wanlu, Díaz Palencia José Luis, Zhao Junhuan, Wang Na*, Jiang Yan, Wang De-Yi*. Bio-based Flame Retardants to Polymers: A Review. *Advanced Industrial and Engineering Polymer Research*, 2023, 6: 132-155.
<https://doi.org/10.1016/j.aiepr.2022.07.003>

269.Abrishamkar Saman, Mohammadi Abbas*, De La Vega Jimena, Wang De-Yi, Kalali Ehsan Naderi. Layer-by-layer Assembly of Calixarene Modified GO and LDH Nanostructures on Flame Retardancy, Smoke Suppression, and Dye Adsorption Behavior of Flexible Polyurethane Foams.

Polymer Degradation and Stability, 2023, 207: 110242.
<https://doi.org/10.1016/j.polymdegradstab.2022.110242>

268. Wang Tao, Yao Dong-Wei, Yin Guang-Zhong*, Jiang Yan, Wang Na, Wang De-Yi*. Gallic Acid-iron Complex Modified Magnesium Hydroxide and Its Effect on Flame Retardancy of EVA. *Advanced Industrial and Engineering Polymer Research*, 2023, 6(2): 172-180.
<https://doi.org/10.1016/j.aiepr.2022.12.003>

267. Hu Wen-Juan, Li Ying-Ming, Li Yi-Ran*, Wang De-Yi*. Highly Efficient Intumescent Flame Retardant of Dopamine-modified Ammonium Polyphosphate for The Thermoplastic Polyurethane Elastomer. *Journal of Thermal Analysis and Calorimetry*, 2023, 148: 1841-1851.
<https://doi.org/10.1007/s10973-022-11852-0>

266. Duan Yanyan, Oropeza Freddy E., Jin Xueze, Amargós-Reyes Olivia, Atoini Youssef, Cavinato Luca M., Nagy Gergely Norbert, Kahaly Mousumi Upadhyay, De La Peña O'Shea Víctor A., Wang De-Yi, Costa Rubén D*. Holy Water: Photo-Brightening in Quasi-2D Perovskite Films under Ambient Enables Highly Performing Light-Emitting Diodes. *Advanced Functional Materials*, 2023, 33, 2209249. <https://doi.org/10.1002/adfm.202209249>

265. Hu Wen-Juan, Li Ying-Ming*, Hu Shuang-Lin, Li Yi-Ran, Wang De-Yi*. The Design of the Nano-container to Store the Highly Efficient Flame Retardants Toward the Enhancement of Flame Retardancy and Smoke Suppression for the Unsaturated Polyester Resins. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2023, 658: 130708.
<https://doi.org/10.1016/j.colsurfa.2022.130708>

264. Yang Yunxian, Wang De-Yi*, Jian Rong-Kun, Liu Zhiqi, Huang Guangyan*. Chemical Structure Construction of DOPO-containing Compounds for Flame Retardancy of Epoxy Resin: A review. *Progress in Organic Coatings*, 2023, 175: 107316.
<https://doi.org/10.1016/j.porgcoat.2022.107316>

263. Hu Wen-Juan, Li Ying-Ming*, Pang You-Yu, Li Yi-Ran, Wang De-Yi*. The Preparation of Phosphorus and Nitrogen-containing Structure Towards the Enhancement of Flame Retardancy for Thermoplastic Polyurethane Elastomer. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2023, 656: 130375. <https://doi.org/10.1016/j.colsurfa.2022.130375>

262. Yusuf Abdulmalik, Sai Avvaru Venkata, De la Vega Jimena, Zhang Mingyang, Garcia Molleja Javier, Wang De-Yi*. Unveiling the Structure, Chemistry, and Formation Mechanism of an In-situ Phosphazene Flame Retardant-derived Interphase Layer in LiFePO₄ Cathode. *Chemical Engineering Journal*, 2023, 455: 140678. <https://doi.org/10.1016/j.cej.2022.140678>

2022

261. Yusuf Abdulmalik, Wang De-Yi*. Toward an in-Depth Fire Hazard and Resistance Diagnosis of Flame Retarded Liquid Electrolytes for Safer Lithium-Ion Batteries, *Advanced Materials Technologies*, 2022, 7, 2101055 <https://doi.org/10.1002/admt.202101055>

260. Yang Yunxian, Haurie Laia, Wang De-Yi*. Bio-Based Materials for Fire-Retardant Application in Construction Products: A Review, *Journal of Thermal Analysis and Calorimetry*, 2022, 147, 6563-6582. <https://doi.org/10.1007/s10973-021-11009-5>
259. Wang Zhiwen, Jiang Yan, Yang Xiaomei, Zhao Junhuan, Fu Wanlu, Wang Na, Wang De-Yi*. Surface Modification of Ammonium Polyphosphate for Enhancing Flame-Retardant Properties of Thermoplastic Polyurethane, *Materials*, 2022, 15(6): 1990. <https://doi.org/10.3390/ma15061990>
258. Boaretto Nicola, Dávila Beatriz, Sevilla Sonia, García Guzmán, Mikhailchan Anastasiia, Rana Moumita, Yusuf Abdulmalik, Ubierna Martinez Lucio, Castillo García Marta, Palma Jesús, Wang De-Yi, Marcilla Rebeca*, José Vilatela Juan*. Thermoconformable, Flexible Lithium-Ion Batteries, *Advanced Materials Technologies*, 2022, 7, 2101635. <https://doi.org/10.1002/admt.202101635>
257. Xiao Dan*, Zheng Meng-Ting, Gohs Uwe, Wagenknecht Udo, Voit Brigitte, Wang De-Yi*. Highly Efficient Flame Retardant and Smoke Suppression Mechanism of Polypropylene Nanocomposites Based on Clay and Allylamine Polyphosphate, *Journal of Applied Polymer Science*, 2022, 139(23): 52311. <https://doi.org/10.1002/app.52311>
256. Han Gaojie, Zhang Di, Kong Chuiming, Zhou Bing, Shi Yongqian, Feng Yuezhan*, Liu Chuntai*, Wang De-Yi. Flexible, Thermostable and Flame-Resistant Epoxy-Based Thermally Conductive Layered Films with Aligned Ionic Liquid-Wrapped Boron Nitride Nanosheets Via Cyclic Layer-by-Layer Blade-Casting, *Chemical Engineering Journal*, 2022, 437: 135482. <https://doi.org/10.1016/j.cej.2022.135482>
255. Xiao Dan*, Gohs Uwe, Wagenknecht Udo, Voit Brigitte, Xiao Xue-Qing, Peng Xiang-Fang, Wang De-Yi*. Effect of High-Energy Electrons on the Thermal, Mechanical and Fire Safety Properties of Fire-Retarded Polypropylene Nanocomposites, *Radiation Physics and Chemistry*, 2022, 194: 110016. <https://doi.org/10.1016/j.radphyschem.2022.110016>
254. Li Na, Li Zhi, Liu Zhiqi*, Yang Yunxian, Jia Yuchen, Li Jisheng, Wei Ming, Li Lijuan, Wang De-Yi. Magnesium Hydroxide Micro-Whiskers as Super-Reinforcer to Improve Fire Retardancy and Mechanical Property of Epoxy Resin, *Polymer Composites*, 2022, 43(4): 1996-2009. <https://doi.org/10.1002/pc.26514>
253. Yusuf A., Li Z., Yuan X., Wang D. Y.*. Toward a New Generation of Fire-Safe Energy Storage Devices: Recent Progress on Fire-Retardant Materials and Strategies for Energy Storage Devices, *Small Methods*, 2022, 6(3): e2101428. <https://doi.org/10.1002/smt.202101428>
252. Fu Can, Xu Xiaoli, Yin Guang-Zhong, Xu Baoyun, Li Pingyang, Ai Bo, Zhai Zhongjie, Gao Fei, Zhai Jinguo, Wang De-Yi*. Surface Engineering for Cellulose as a Boosted Layer-by-Layer Assembly: Excellent Flame Retardancy and Improved Durability with Introduction of Bio-Based “Molecular Glue”, *Applied Surface Science*, 2022, 585: 152550. <https://doi.org/10.1016/j.apsusc.2022.152550>
251. Shi Xiao-Hui*, Liu Qing-Yun, Li Xue-Lin, Du An-Ke, Niu Jia-Wei, Li Ying-Ming, Li Zhi, Wang Min, Wang De-Yi*. Construction Phosphorus/Nitrogen-Containing Flame-Retardant and

Hydrophobic Coating toward Cotton Fabric Via Layer-by-Layer Assembly, *Polymer Degradation and Stability*, 2022, 197: 109839. <https://doi.org/10.1016/j.polymdegradstab.2022.109839>

250. Shao Zhu-Bao, Cui Jing, Lin Xue-Bao, Li Xiao-Lu, Jian Rong-Kun, Wang De-Yi*. In-Situ Coprecipitation Formed Fe/Zn-Layered Double Hydroxide/Ammonium Polyphosphate Hybrid Material for Flame Retardant Epoxy Resin Via Synergistic Catalytic Charring, *Composites Part A: Applied Science and Manufacturing*, 2022, 155: 106841. <https://doi.org/10.1016/j.compositesa.2022.106841>

249. Shi Xiao-Hui*, Li Xue-Lin, Li Ying-Ming, Li Zhi, Wang De-Yi*. Flame-Retardant Strategy and Mechanism of Fiber Reinforced Polymeric Composite: A Review, *Composites Part B: Engineering*, 2022, 233: 109663. <https://doi.org/10.1016/j.compositesb.2022.109663>

248. Yin Guang-Zhong, Yang Xiao-Mei, Hobson Jose, López Alba Marta, Wang De-Yi*. Bio-Based Poly (Glycerol-Itaconic Acid)/Peg/App as Form Stable and Flame-Retardant Phase Change Materials, *Composites Communications*, 2022, 30: 101057. <https://doi.org/10.1016/j.coco.2022.101057>

247. Yin Guang-Zhong, Wang De-Yi*. Reversible 1:1 Inclusion Complexes of C60 Derivatives in A- and B-Cyclodextrins: Implications for Molecular Recognition-Based Sensing and Supramolecular Assembly, *ACS Applied Nano Materials*, 2022, 5(1): 149-159. <https://doi.org/10.1021/acsanm.1c02040>

246. Li Xiaolu, Sánchez del Río Saez José, Ao Xiang, Yusuf Abdulmalik, Wang De-Yi*. Highly-Sensitive Fire Alarm System Based on Cellulose Paper with Low-Temperature Response and Wireless Signal Conversion, *Chemical Engineering Journal*, 2022, 431: 134108. <https://doi.org/10.1016/j.cej.2021.134108>

245. Feng Wenliang, Zhang Jing, Yusuf Abdulmalik, Ao Xiang, Shi Dongfeng, Etacheri Vinodkumar*, Wang De-Yi*. Quasi-Solid-State Sodium-Ion Hybrid Capacitors Enabled by UiO-66@Pvdf-Hfp Multifunctional Separators: Selective Charge Transfer and High Fire Safety, *Chemical Engineering Journal*, 2022, 427: 130919. <https://doi.org/10.1016/j.cej.2021.130919>

244. Xiao Dan*, Gohs Uwe, Wagenknecht Udo, Voit Brigitte, Wang De-Yi*. Thermal Stability and Pyrolysis Behavior of an Efficient Fire-Retarded Polypropylene Containing Allylamine Polyphosphate and Pentaerythritol, *Thermochimica Acta*, 2022, 708: 179083. <https://doi.org/10.1016/j.tca.2021.179083>

243. Yin Guang-Zhong, Alba Marta López, Xiao-Mei Yang, Xiang Ao, Hobson Jose, Wang De-Yi*. Polyrotaxane Based Leakage-proof and Injectable Phase Change Materials with High Melting Enthalpy and Adjustable Transition Temperature, *Chemical Engineering Journal*, 2022, 444: 136421. <https://doi.org/10.1016/j.cej.2022.136421>

242. Zhang Jing, Ao Xiang, Zhang Xiuqin, Wang Rui, Jin Xu, Ye Wen, Xu Baoyun, Wang De-Yi*. Construction of Nanomaterials Based on Molybdenum Disulfide Decorated onto a Metal–Organic Framework (UiO-66) to Improve the Fire Retardancy of Epoxy, *ACS Applied Nano Materials*, 2022, 5(12): 17731-17740. <https://doi.org/10.1021/acsanm.2c03691>

241. Hu Shuang-Lin, Li Ying-Ming*, Hu Wen-Juan, Hobson Jose, Wang De-Yi*. Strategic Design Unsaturated Polyester Resins Composites with Excellent Flame Retardancy and High Tensile Strength, *Polymer Degradation and Stability*, 2022, 206: 110190. <https://doi.org/10.1016/j.polymdegradstab.2022.110190>

240. Li Zhi, Cao Xue-Meng, Jiang Lin-Yun, Wei Ping, Zhang Jing, Wang De-Yi*. Interface-Charring Catalysis Enables Fire-Safe and Mechanically Reinforced Epoxy via Facile Interfacial Aggregation Induction, *Polymer Degradation and Stability*, 2022, 206: 110189. <https://doi.org/10.1016/j.polymdegradstab.2022.110189>

239. Yin Guang-Zhong, Yang Xiao-Mei, Palencia José Luis Díaz, Hobson Jose, López Alba Marta, Wang De-Yi*. Phytic Acid as a Biomass Flame Retardant for Polyrotaxane Based Phase Change Materials, *Journal of Energy Storage*, 2022, 56: 105853. <https://doi.org/10.1016/j.est.2022.105853>

238. Ma De-Xin, Yang Yuan, Yin Guang-Zhong, Vázquez-López Antonio, Jiang Yan, Wang Na*, Wang De-Yi*. ZIF-67 In Situ Grown on Attapulgit: A Flame Retardant Synergist for Ethylene Vinyl Acetate/Magnesium Hydroxide Composites, *Polymers*, 2022, 14(20): 4408. <https://doi.org/10.3390/polym14204408>

237. Chen Xiaosui, Lin Xuebao, Ye Wen, Xu Baoyun, Wang De-Yi*. Polyelectrolyte as Highly Efficient Flame Retardant to Epoxy: Synthesis, Characterization and Mechanism, *Polymer Degradation and Stability*, 2022, 206: 110181. <https://doi.org/10.1016/j.polymdegradstab.2022.110181>

236. Shao Zhu-Bao*, Song Xiang, Wang Tian-Ci, Cui Jing, Ye Wen, Xu Baoyun, Wang De-Yi*. Facile Fabrication of Organic Zirconium/Inorganic Phosphorus Complex for Super-efficiently Flame-retardant Epoxy Resin, *Composites Communications*, 2022, 36: 101360. <https://doi.org/10.1016/j.coco.2022.101360>

235. Shi Xiao-Hui*, Liu Qing-Yun, Li Xue-Lin, Yang Si-Yi, Wang De-Yi*. Simultaneously Improving the Fire Safety and Mechanical Properties of Epoxy Resin with Iron Phosphonated Grafted Polyethylenimine, *Polymer Degradation and Stability*, 2022, 206: 110173. <https://doi.org/10.1016/j.polymdegradstab.2022.110173>

234. Li Xiaolu, Vázquez-López Antonio, Sánchez Del Río Saeza José, Wang De-Yi*. Recent Advances on Early-Stage Fire-Warning Systems: Mechanism, Performance, and Perspective, *Nano-Micro Letters*, 2022, 14: 197. <https://doi.org/10.1007/s40820-022-00938-x>

233. Yin Guang-Zhong, Yang Xiao-Mei, López Alba Marta, Wang Mei-Ting, Ye Wen, Xu Baoyun, Wang De-Yi*. Sodium Alginate and Chitosan Aided Design of Form-stable Polyrotaxane Based Phase Change Materials with Ultra-high Latent Heat, *International Journal of Biological Macromolecules*, 2022, 222: 429-437. <https://doi.org/10.1016/j.ijbiomac.2022.09.149>

232. Yusuf Abdulmalik, Del Rio Jose Sanchez, Ao Xiang, Olaizola Ignacio Astarloa, Wang De-Yi*. Potential Energy-assisted Coupling of Phase Change Materials with Triboelectric Nanogenerator Enabling a Thermally Triggered, Smart, and Self-powered IoT Thermal and Fire Hazard Sensor: Design, Fabrication, and Applications, *Nano Energy*, 2022, 103: 107790. <https://doi.org/10.1016/j.nanoen.2022.107790>

231.Hobson Jose, Yin Guang-Zhong, Yu Xiaoli, Zhou Xiaodong, Prolongo Silvia Gonzalez, Ao Xiang, Wang De-Yi*. Synergistic Effect of Cerium Oxide for Improving the Fire-Retardant, Mechanical and Ultraviolet-Blocking Properties of EVA/Magnesium Hydroxide Composites, *Materials*, 2022, 15(17): 5867. <https://doi.org/10.3390/ma15175867>

230.Li Xiaolu, del Río Saez José Sánchez, Ao Xiang, Xu Baoyun, Wang De-Yi*. Tailored P/Si-decorated Graphene Oxide-based Fire Sensor for Sensitive Detection at Low-temperature via Local and Remote Wireless Transmission, *Construction and Building Materials*, 2022, 349: 128600. <https://doi.org/10.1016/j.conbuildmat.2022.128600>

229.Zhu Danping, Bi Qingqing, Yin Guang-Zhong, Jiang Yan, Fu Wanlu, Wang Na*, Wang De-Yi*. Investigation of Magnesium Hydroxide Functionalized by Polydopamine/transition Metal Ions on Flame Retardancy of Epoxy Resin, *Journal of Thermal Analysis and Calorimetry*, 2022, 147: 13301–13312. <https://doi.org/10.1007/s10973-022-11467-5>

228.Xiao Dan*, Zheng Meng-Ting, Gohs Uwe, Wagenknecht Udo, Voit Brigitte, Xiao Xue-Qing, Wang De-Yi*. A Sustainable Green Electron Reactive Processing for Fire Safety of Polypropylene Nanocomposites, *Radiation Physics and Chemistry*, 2022, 201: 110463. <https://doi.org/10.1016/j.radphyschem.2022.110463>

227.del Río José Sánchez, Yusuf Abdulmalik, Ao Xiang, Olaizola Ignacio Astarloa, López-Puertas Lucía Urbelz, Ballesteros María Yolanda, Giannetti Romano, Martínez Vanesa, Jiménez José Luis, Mongee José Benito Bravo, Chen Xiaosui, Wang De-Yi*. High-resolution TENGs for Earthquakes Ground Motion Detection, *Nano Energy*, 2022, 102: 107666. <https://doi.org/10.1016/j.nanoen.2022.107666>

226.Duan Yanyan, Chordiya Kalyani, Kahaly Mousumi Upadhyay, Oropeza Freddy E., De La Peña O'Shea Víctor A., Wang De-Yi*, Costa Rubén D*. Rational Amphiphilic Ligand Engineering Enables Enhanced Stability and Efficiency of CsPbB3 Nanocrystals Based Light Emitting Diodes, *Advanced Optical Materials*, 2022, 10: 2201176. <https://doi.org/10.1002/adom.202201176>

225.Li Xiaolu, del Río Saez José Sánchez, Ao Xiang, Vázquez-López Antonio, Xu Xiaoli, Xu Baoyun, Wang De-Yi*. Smart Low-temperature Responsive Fire Alarm Based on MXene/Graphene Oxide Film with Wireless Transmission: Remote Real-time Luminosity Detection, *Colloids and Surfaces A Physicochemical and Engineering Aspects*, 2022, 651: 129641. <https://doi.org/10.1016/j.colsurfa.2022.129641>

224.Li Yi-Ran, Li Ying-Ming*, Chen Bing-Bing, Hu Wen-Juan, Wang De-Yi*. Highly Efficient Electromagnetic Wave Absorption Fe-MOF-rGO based Composites with Enhanced Flame Retardancy, *Journal of Alloys and Compounds*, 2022, 918: 165516. <https://doi.org/10.1016/j.jallcom.2022.165516>

223.Xiao Dan*, Lv Jin-Xiang, Wu Fang-Juan, Wang Zi-Bo, Harre Kathrin, Chen Jian-Hong, Gohs Uwe, Wang De-Yi. Development of Multifunctional Highly-efficient Bio-based Fire-retardant Poly(lactic acid) Composites for Simultaneously Improving Thermal, Crystallization and Fire Safety Properties, *International Journal of Biological Macromolecules*, 2022, 215: 646-656. <https://doi.org/10.1016/j.ijbiomac.2022.06.158>

222.Song Kunpeng, Hou Boyou, Ur Rehman Zeeshan, Pan Ye-Tang*, He Jiyu*, Wang De-Yi, Yang Rongjie. “Sloughing” of Metal-organic Framework Retaining Nanodots via Step-by-step Carving and Its Flame-retardant Effect in Epoxy Resin, *Chemical Engineering Journal*, 2022, 448: 137666. <https://doi.org/10.1016/j.cej.2022.137666>

221.Zhang Jing, Fernández-Blázquez Juan P., Li Xiao-Lu, Wang Rui, Zhang Xiuqin, Wang De-Yi*. A Facile Technique to Investigate the Char Strength and Fire Retardant Performance towards Intumescent Epoxy Nanocomposites Containing Different Synergists, *Polymer Degradation and Stability*, 2022, 202: 110000. <https://doi.org/10.1016/j.polymdegradstab.2022.110000>

220.Xiao Dan*, Wang Zi-bo, Gohs Uwe, Harre Kathrin, Wang De-Yi. A Novel Highly-efficient Bio-based Fire Retardant for Poly (lactic acid): Synthesis, Preparation, Property and Mechanism, *Chemical Engineering Journal*, 2022, 446: 137092. <https://doi.org/10.1016/j.cej.2022.137092>

219.Yin Guang-Zhong, Marta López Alba, Yang Xiao-Mei, Ye Wen, Xu Baoyun, Hobson Jose, Wang De-Yi. Shape-stable and Smart Polyrotaxane-based Phase Change Materials with Enhanced Flexibility and Fire-safety, *European Polymer Journal*, 2022, 173: 111262. <https://doi.org/10.1016/j.eurpolymj.2022.111262>

218.Li Xue-Lin, Shi Xiao-Hui*, Chen Ming-Jun, Liu Qing-Yun, Li Ying-Ming, Li Zhi, Huang Yan-Hao, Wang De-Yi*. Biomass-based Coating from Chitosan for Cotton Fabric with Excellent Flame Retardancy and Improved Durability, *Cellulose*, 2022, 29: 5289-5303. <https://doi.org/10.1007/s10570-022-04566-x>

2021

217.Unnikrishnan Vishnu, Zabihi Omid, Li Quanxiang, Ahmadi Mojtaba, Yadav Ramdayal, Kalali Ehsan Naderi, Tanwar Khagesh, Kiziltas Alper, Blanchard Patrick, Wang De-Yi, Naebe Minoo*. Organophosphorus-Functionalized Zirconium-Based Metal–Organic Framework Nanostructures for Improved Mechanical and Flame Retardant Polymer Nanocomposites, *ACS Applied Nano Materials*, 2021, 4(12): 13027-13040. <https://doi.org/10.1021/acsnm.1c02503>

216.Lin S., Tao B., Zhao X.*, Chen G., Wang D.Y.*. Surface Functionalization of Black Phosphorus Via Amine Compounds and Its Impacts on the Flame Retardancy and Thermal Decomposition Behaviors of Epoxy Resin, *Polymers (Basel)*, 2021, 13(21): 3635. <https://doi.org/10.3390/polym13213635>

215.Shao Zhu-Bao, Cui Jing, Li Xiao-Lu, Díaz Palencia José Luis, Wang D. Y.*. Chemically Inorganic Modified Ammonium Polyphosphate as Eco-Friendly Flame Retardant and Its High Fire Safety for Epoxy Resin, *Composites Communications*, 2021, 28: 100959. <https://doi.org/10.1016/j.coco.2021.100959>

214.Yuan Y., Pan Y. T., Zhang W., Feng M., Wang N., Wang D. Y.*, Yang R. Delamination and Engineered Interlayers of Ti₃C₂ Mxenes Using Phosphorous Vapor toward Flame-Retardant Epoxy Nanocomposites, *ACS Appl Mater Interfaces*, 2021, 13(40): 48196-48207. <https://doi.org/10.1021/acsaami.1c11863>

213. Duan Yanyan, Wang De-Yi, Costa Rubén D*. Recent Progress on Synthesis, Characterization, and Applications of Metal Halide Perovskites@Metal Oxide, *Advanced Functional Materials*, 2021, 31(49): 2104634. <https://doi.org/10.1002/adfm.202104634>

212. Fu Can, Ye Wen, Zhai Zhongjie, Zhang Jing, Li Pingyang, Xu Baoyun, Li Xiaolei, Gao Fei, Zhai Jinguo, Wang De-Yi*. Self-Cleaning Cotton Fabrics with Good Flame Retardancy Via One-Pot Approach, *Polymer Degradation and Stability*, 2021, 192: 109700. <https://doi.org/10.1016/j.polymdegradstab.2021.109700>

211. Yin Guang-Zhong, Díaz Palencia José Luis, Wang De-Yi*. Fully Bio-Based Poly (Glycerol-Itaconic Acid) as Supporter for Peg Based Form Stable Phase Change Materials, *Composites Communications*, 2021, 27: 100893. <https://doi.org/10.1016/j.coco.2021.100893>

210. Yang Y., Diaz Palencia J. L., Wang N., Jiang Y., Wang D. Y.*. Nanocarbon-Based Flame Retardant Polymer Nanocomposites, *Molecules*, 2021, 26(15): 4670. <https://doi.org/10.3390/molecules26154670>

209. Julio Marti., Jimena de la Vega., Wang De-Yi*. Eugenio Oñate. Numerical Simulation of Flame Retardant Polymers Using a Combined Eulerian–Lagrangian Finite Element Formulation, *Applied Sciences*, 2021, 11(13): 5952. <https://doi.org/10.3390/app11135952>

208. Shao Zhu-Bao, Zhang Jing, Jian Rong-Kun, Sun Chang-Chun, Li Xiao-Lu, Wang De-Yi*. A Strategy to Construct Multifunctional Ammonium Polyphosphate for Epoxy Resin with Simultaneously High Fire Safety and Mechanical Properties, *Composites Part A: Applied Science and Manufacturing*, 2021, 149: 106529. <https://doi.org/10.1016/j.compositesa.2021.106529>

207. Yin Guang-Zhong, Hobson Jose, Duan Yanyan, Wang De-Yi*. Polyrotaxane: New Generation of Sustainable, Ultra-Flexible, Form-Stable and Smart Phase Change Materials, *Energy Storage Materials*, 2021, 40: 347-357. <https://doi.org/10.1016/j.ensm.2021.05.023>

206. Omar H., Smales G. J., Henning S., Li Z., Wang D. Y., Schonhals A., Szymoniak P.*. Calorimetric and Dielectric Investigations of Epoxy-Based Nanocomposites with Halloysite Nanotubes as Nanofillers, *Polymers*, 2021, 13(10): 1634. <https://doi.org/10.3390/polym13101634>

205. Yang Y.*, Wang D. Y.*, Haurie L., Liu Z., Zhang L. Combination of Corn Pith Fiber and Biobased Flame Retardant: A Novel Method toward Flame Retardancy, Thermal Stability, and Mechanical Properties of Polylactide, *Polymers*, 2021, 13(10): 1562. <https://doi.org/10.3390/polym13101562>

204. Duan Y., Yin G. Z., Wang D. Y.*, Costa R. D.*. In Situ Ambient Preparation of Perovskite-Poly(L-Lactic Acid) Phosphors for Highly Stable and Efficient Hybrid Light-Emitting Diodes, *ACS Appl Mater Interfaces*, 2021, 13: 21800-21809. <https://doi.org/10.1021/acsami.1c04025>

203. Fu C., Xu B., Dong L., Zhai J., Wang X., Wang D. Y.*. Highly Efficient Bivocolor Single-Crystal Nanosheets with Dual Modification: Phosphorus Doping and Selective Ag Modification, *Nanotechnology*, 2021, 32(32): 325071. <https://doi.org/10.1088/1361-6528/abfc0b>

202.Li Xiaolu, Zhang Jing, Zhang Lu, Ruiz de Luzuriaga Alaitz, Rekondo Alaitz, Wang De-Yi*. Recyclable Flame-Retardant Epoxy Composites Based on Disulfide Bonds: Flammability and Recyclability, *Composites Communications*, 2021, 25: 100754. <https://doi.org/10.1016/j.coco.2021.100754>

201.Zhang L., Ou Y., Wang D. Y.*. Surface Functionalization of Carbon Fabric Towards High-Performance Epoxy Composites Via Enhanced Fiber–Matrix Interfacial Strength and Intergrowth Charring Behavior, *Express Polymer Letters*, 2021, 15(6): 503-514. <https://doi.org/10.3144/expresspolymlett.2021.43>

200.Zabihi Omid*, Ahmadi Mojtaba, Yadav Ramdayal, Mahmoodi Roya, Naderi Kalali Ehsan, Nikafshar Saeid, Ghandehari Ferdowsi Mahmoud Reza, Wang De-Yi, Naebe Minoo. Novel Phosphorous-Based Deep Eutectic Solvents for the Production of Recyclable Macadamia Nutshell–Polymer Biocomposites with Improved Mechanical and Fire Safety Performances, *ACS Sustainable Chemistry & Engineering*, 2021, 9(12): 4463-4476. <https://doi.org/10.1021/acssuschemeng.0c08447>

199.Guo Y., Zhou M., Yin G. Z., Kalali E., Wang N.*, Wang D. Y.*. Basalt Fiber-Based Flame Retardant Epoxy Composites: Preparation, Thermal Properties, and Flame Retardancy, *Materials*, 2021, 14(4): 902. <https://doi.org/10.3390/ma14040902>

198.Sun Chang-Chun, Yusuf Abdulmalik, Li Shao-Wen, Qi Xiao-Lin, Ma Yue, Wang De-Yi*. Metal Organic Frameworks Enabled Rational Design of Multifunctional Peo-Based Solid Polymer Electrolytes, *Chemical Engineering Journal*, 2021, 414: 128702. <https://doi.org/10.1016/j.cej.2021.128702>

197.Chen Xiaosui, Yusuf Abdulmalik, del Rio Jose Sanchez, Wang De-Yi*. A Facile and Robust Route to Polyvinyl Alcohol-Based Triboelectric Nanogenerator Containing Flame-Retardant Polyelectrolyte with Improved Output Performance and Fire Safety, *Nano Energy*, 2021, 81: 105656. <https://doi.org/10.1016/j.nanoen.2020.105656>

196.Zhou Meihui, Liu Yanji, Yao Dongwei, Jiang Yan, Zhang Xinyu, Wang De-Yi*, Wang Na*. Promotion of the Flame Retardancy of 9,10-Dihydro-9-Oxa-10-Phosphaphenanthrene-10-Oxide Grafted Natural Rubber Using Expandable Graphite, *Arabian Journal of Chemistry*, 2021, 14(3): 102980. <https://doi.org/10.1016/j.arabjc.2020.102980>

195.Liu Wei, Pan Ye-Tang, Zhang Jing, Zhang Lu, Moya José Serafín, Cabal Belén, Wang De-Yi*. Low-Melting Phosphate Glasses as Flame-Retardant Synergists to Epoxy: Barrier Effects Vs Flame Retardancy, *Polymer Degradation and Stability*, 2021, 185: 109495. <https://doi.org/10.1016/j.polymdegradstab.2021.109495>

194.Szymoniak P., Qu X., Abbasi M., Pauw B. R., Henning S., Li Z., Wang D. Y., Schick C., Saalwachter K., Schonhals A.*. Spatial Inhomogeneity, Interfaces and Complex Vitrification Kinetics in a Network Forming Nanocomposite, *Soft Matter*, 2021, 17(10): 2775-2790. <https://doi.org/10.1039/D0SM01992E>

193. Xiao Yao, Pei Yu, Hu Yifan, Ma Ruguang, Wang Deyi*, Wang Jiacheng*. Co2p@P-Doped 3d Porous Carbon for Bifunctional Oxygen Electrocatalysis, *Acta Physico Chimica Sinica*, 2021, 37(7): 2009051. <https://doi.org/10.3866/PKU.WHXB202009051>

192. Zhang Jing, Li Zhi, Yin Guang-Zhong, Wang De-Yi*. Construction of a Novel Three-in-One Biomass Based Intumescent Fire Retardant through Phosphorus Functionalized Metal-Organic Framework and B-Cyclodextrin Hybrids in Achieving Fire Safe Epoxy, *Composites Communications*, 2021, 23: 100594. <https://doi.org/10.1016/j.coco.2020.100594>

191. Acuña Pablo, Zhang Jing, Yin Guang-Zhong, Liu Xue-Qi, Wang De-Yi*. Bio-Based Rigid Polyurethane Foam from Castor Oil with Excellent Flame Retardancy and High Insulation Capacity Via Cooperation with Carbon-Based Materials, *Journal of Materials Science*, 2021, 56(3): 2684-2701. <https://doi.org/10.1007/s10853-020-05125-0>

2020

190. Zhida Zhang, Jianyu Qin, Wenchao Zhang, Ye-Tang Pan, De-Yi Wang, Rongjie Yang. Synthesis of a novel dual layered double hydroxide hybrid nanomaterial and its application in epoxy nanocomposites. *Chemical Engineering Journal*, 2020, 381, 122777. <https://doi.org/10.1016/j.cej.2019.122777>

189. Omid Zabihi, Mojtaba Ahmadi, Quanxiang Li, Mahmoud Reza Ghandehari Ferdowsi, Roya Mahmoodi, Ehsan Naderi Kalali, De-Yi Wang, Minoos Naebe. A sustainable approach to scalable production of a graphene based flame retardant using waste fish deoxyribonucleic acid. *Journal of Cleaner Production*, 2020, 247, 119150. <https://doi.org/10.1016/j.jclepro.2019.119150>

188. Lu Zhang, Wei Liu, Xin Wen, Jiayin Chen, Chenshou Zhao, Miguel Castillo-Rodríguez, Lingwei Yang, Xiu-Qin Zhang, Rui Wang, De-Yi Wang*. Electrospun submicron NiO fibers combined with nanosized carbon black as reinforcement for multi-functional poly(lactic acid) composites. *Composites: Part A*, 2020, 129, 105662. <https://doi.org/10.1016/j.compositesa.2019.105662>

187. Xin Wen, Zhiqi Liu, Zhi Li, Jing Zhang, De-Yi Wang*, Karolina Szymanska, Xuecheng Chen*, Ewa Mijowska, Tao Tang*. Constructing multifunctional nanofiller with reactive interface in PLA/CB-g-DOPO composites for simultaneously improving flame retardancy, electrical conductivity and mechanical properties. *Composites Science and Technology*, 2020, 188, 107988. <https://doi.org/10.1016/j.compscitech.2019.107988>

186. Lu Zhang, Qi Wang, Rong-Kun Jian and De-Yi Wang*. Bioinspired iron-loaded polydopamine nanospheres as green flame retardant for epoxy resin via free radical scavenging and catalytic charring. *J. Mater. Chem. A*, 2020, 8, 2529-2538. <https://doi.org/10.1039/C9TA11021F>

185. Jing Zhang, Zhi Li, Xiaolin Qi, Wen Zhang, De-Yi Wang*. Size tailored bimetallic metal-organic framework (MOF) on graphene oxide with sandwich-like structure as functional nano-hybrids for improving fire safety of epoxy. *Composites Part B: Engineering*, 2020, 188, 107881. <https://doi.org/10.1016/j.compositesb.2020.107881>

184. Qi Wang, Dang Sheng Su and De-Yi Wang*. Carbon Nanotube/Epoxy Composites for Improved Fire Safety. *ACS Applied Nano Materials*, 2020, 3(5), 4253–4264 <https://doi.org/10.1021/acsnm.0c00423>
183. Y. X. Yang, L. Haurie, J. Zhang, X-Q. Zhang, R. Wang, D-Y. Wang*. Effect of bio-based phytate (PA-THAM) on the flame retardant and mechanical properties of polylactide (PLA). *EXPRESS Polymer Letters*, 2020, 14(8), 705–716. [10.3144/expresspolymlett.2020.58](https://doi.org/10.3144/expresspolymlett.2020.58)
182. PabloAcuña, Xuebao Lin, Mercedes Santiago Calvo, Zhubao Shao, Nerea Pérez, Fernando Villafañe, Miguel Ángel Rodríguez-Pérez, De-Yi Wang*. Synergistic effect of expandable graphite and phenylphosphonic-aniline salt on flame retardancy of rigid polyurethane foam. *Polymer Degradation and Stability*, 2020, 179, 109274. <https://doi.org/10.1016/j.polymdegradstab.2020.109274>
181. Qi Wang, Jing Zhang, Wen Shi, Miguel Castillo-Rodríguez, Dang Sheng Su, De-Yi Wang*. Coordinating mechanical performance and fire safety of epoxy resin via functionalized nanodiamond. *Diamond and Related Materials*, 2020, 108, 107964. <https://doi.org/10.1016/j.diamond.2020.107964>
180. Ying-Ming Li, Shuang-Lin Hu, De-Yi Wang*. Polymer-based ceramifiable composites for flame retardant applications: A review. *Composites Communications*, 2020, 21, 100405. <https://doi.org/10.1016/j.coco.2020.100405>
179. Jing Zhang, Zhi Li, Zhu-Bao Shao, Lu Zhang, De-Yi Wang*. Hierarchically tailored hybrids via interfacial-engineering of self-assembled UiO-66 and prussian blue analogue: Novel strategy to impart epoxy high-efficient fire retardancy and smoke suppression. *Chemical Engineering Journal*, 2020, 400, 125942. <https://doi.org/10.1016/j.cej.2020.125942>
178. Abdulmalik Yusuf, Venkata Sai Avvaru, Mahmut Dirican, Sun Changchun, De-Yi Wang*. Low heat yielding electrospun phosphenanthrene oxide loaded polyacrylonitrile composite separators for safer high energy density lithium-ion batteries. *Applied Materials Today*, 2020, 20, 100675. <https://doi.org/10.1016/j.apmt.2020.100675>
177. Rong-Kun Jian, Xue-Bao Lin, Zhi-Qi Liu, Wen Zhang, Jing Zhang, Lu Zhang, Zhi Li, De-Yi Wang*. Rationally designed zinc borate@ ZIF-8 core-shell nanorods for curing epoxy resins along with low flammability and high mechanical property. *Composites Part B: Engineering*, 2020, 200, 108349. <https://doi.org/10.1016/j.compositesb.2020.108349>
176. Pan, Ye-Tang*; Yuan, Yongshuai; Wang, De-Yi*; Yang, Rongjie. An Overview of the Flame Retardants for Poly(vinyl chloride): Recent States and Perspective. *Chinese Journal of Chemistry*, 2020, 38(12), 1870-1896. <https://doi.org/10.1002/cjoc.202000375>
175. Zhang, Lu; Zhang, Jing; Wang, De-Yi*. Hierarchical layered double hydroxide nanosheets/phosphorus-containing organosilane functionalized hollow glass microsphere towards high performance epoxy composite: Enhanced interfacial adhesion and bottom-up charring behavior. *Polymer*, 2020, 210, 123018. <https://doi.org/10.1016/j.polymer.2020.123018>

174. Bi, Qingqing; Yao, Dongwei; Yin, Guang-Zhong; You, Jiaqi; Liu, Xue-Qi; Wang, Na*; Wang, De-Yi*. Surface engineering of magnesium hydroxide via bioinspired iron-loaded polydopamine as green and efficient strategy to epoxy composites with improved flame retardancy and reduced smoke release. *Reactive Functional Polymers*, 2020, 155, 104690. <https://doi.org/10.1016/j.reactfunctpolym.2020.104690>
173. Yao, Dongwei; Yin, Guangzhong; Bi, Qingqing; Yin, Xu; Wang, Na*; Wang, De-Yi*. Basalt Fiber Modified Ethylene Vinyl Acetate/Magnesium Hydroxide Composites with Balanced Flame Retardancy and Improved Mechanical Properties. *Polymers*, 2020, 12(9), 2017. <https://doi.org/10.3390/polym12092107>
172. Wan, Jintao*; Zhao, Jianqing; Zhang, Xianwei; Fan, Hong; Zhang, Junhao; Hu, Daodao; Jin, Pujun; Wang, De-Yi**. Epoxy thermosets and materials derived from bio-based monomeric phenols: Transformations and performances. *Progress in Polymer Science*, 2020, 108, 101287. <https://doi.org/10.1016/j.progpolymsci.2020.101287>
171. Zhang, Zhida; Han, Zhongqiang; Pan, Ye-Tang*; Li, Dinghua; Wang, De-Yi; Yang, Rongjie. Dry synthesis of mesoporous nanosheet assembly constructed by cyclomatrix polyphosphazene frameworks and its application in flame retardant polypropylene. *Chemical Engineering Journal*, 2020, 395, 120576. <https://doi.org/10.1016/j.cej.2020.120576>
170. Wang, Na*; Liu, Hao; Zhang, Jing; Zhang, Miao; Fang, Qinghong; Wang, Deyi*. Synergistic effect of graphene oxide and boron-nitrogen structure on flame retardancy of natural rubber/IFR composites. *Arabian Journal of Chemistry*, 2020, 13(8) 6274-6284. <https://doi.org/10.1016/j.arabjc.2020.05.016>
169. Xiao, Yao; Guo, Beibei; Zhang, Jing; Hu, Chun; Ma, Ruguang; Wang, Deyi*; Wang, Jiacheng*. A bimetallic MOF@graphene oxide composite as an efficient bifunctional oxygen electrocatalyst for rechargeable Zn-air batteries. *Dalton Transactions*, 2020, 49(17), 5730-5735. <https://doi.org/10.1039/D0DT00976H>
168. Zhang, Jing; Li, Zhi; Qi, Xiao-Lin; Wang, De-Yi*. Recent Progress on Metal-Organic Framework and Its Derivatives as Novel Fire Retardants to Polymeric Materials. *Nano-Micro Letters*, 2020, 12(1), 173. <https://doi.org/10.1007/s40820-020-00497-z>
167. Yang Hang-Feng, Yue Hang-Bo*, Zhao Xi, Song Min-Zimo, Guo Jian-Wei*, Cui Yi-Hua, Juan P. Fernandez-Blazquez, Wang De-Yi. Polycarbonate/Sulfonamide Composites with Ultralow Contents of Halogen-Free Flame Retardant and Desirable Compatibility. *Materials*, 2020, 13(17), 3656. <https://doi.org/10.3390/ma13173656>
166. Zhang Lu, Li Zhi, Wang De-Yi*. Polydopamine-assisted strategies for preparation of fire-safe polymeric materials: A review. *European Polymer Journal*, 2020, 138, 109973. <https://doi.org/10.1016/j.eurpolymj.2020.109973>

165. Pablo Acuña, Mercedes Santiago-alvo, Fernando Villafaña, Miguel Angel Rodríguez-Perez, Javier Rosas, De-Yi Wang*. Impact of expandable graphite on flame retardancy and mechanical properties of rigid polyurethane foam. *Polym Composite*, 2019, 40(S2), E1705-E1715. <https://doi.org/10.1002/pc.25127>

164. Ehsan Naderi Kalali, Lu Zhang, Marjan E Shabestari, Jeremy Croyal, and De-Yi Wang*. Flame-retardant wood polymer composites (WPCs) as potential fire safe bio-based materials for building products: Preparation, flammability and mechanical properties. *Fire Safety J*, 2019, 107, 210-216. <https://doi.org/10.1016/j.firesaf.2017.11.001>

163. Xin Wen, Hansong Liu, Lu Zhang, Jing Zhang, Can Fu, Xiaoze Shi, Xuecheng Chen, Eva Mijowski, Ming-Jun Chen, De-Yi Wang*. Large-scale converting waste coffee grounds into functional carbon materials as high-efficient adsorbent for organic dyes. *Bioresource Technol*, 2019, 272, 92-98. <https://doi.org/10.1016/j.biortech.2018.10.011>

162. Xiao-Lin Qi, Dong-Dong Zhou, Jing Zhang, Shuang Hu, Maciej Haranczyk*, De-Yi Wang* Simultaneous Improvement of Mechanical and Fire-Safety Properties of Polymer Composites with Phosphonate-Loaded MOF Additives. *ACS Appl. Mater. Interfaces*, 2019, 11, 22, 20325-20332. <https://doi.org/10.1021/acsami.9b02357>

161. Nerea Pérez, Xiao-Lin Qi, Shibin Nie, Pablo Acuña, Ming-Jun Chen,* De-Yi Wang*. Flame Retardant Polypropylene Composites with Low Densities. *Materials*, 2019, 12(1), 152. <https://doi.org/10.3390/ma12010152>. <https://doi.org/10.3390/ma12010152>

160. Yunxian Yang, Laia Haurie, Jianheng Wen, Shuidong Zhang, De-Yi Wang*. Effect of oxidized wood flour as functional filler on the mechanical, thermal and flame-retardant properties of polylactide biocomposites. *Ind Crop Prod*, 2019, 130, 301-309. <https://doi.org/10.1016/j.indcrop.2018.12.090>

159. Pablo Acuña, Zhi Li, Mercedes Santiago-Calvo, Fernando Villafaña, Miguel Ángel Rodríguez-Perez, De-Yi Wang*. Influence of the Characteristics of Expandable Graphite on the Morphology, Thermal Properties, Fire Behaviour and Compression Performance of a Rigid Polyurethane Foam. *Polymers*, 2019, 11(1), 68. <https://doi.org/10.3390/polym11010168>

158. Peng-Ji Wang, Dui-Jun Liao, Xiao-Ping Hu*, Ning Pan, Wen-Xiong Li, De-Yi Wang*, YongYao. Facile fabrication of biobased P-N-C-containing nano-layered hybrid: Preparation, growth mechanism and its efficient fire retardancy in epoxy. *Polym Degrad Stabil*, 2019, 159, 153-162. <https://doi.org/10.1016/j.polymdgradstab.2018.11.024>

157. Lu Zhang, Siqi Chen, Ye-Tang Pan, Shuidong Zhang, Shibin Nie, Ping Wei, Xiuqin Zhang, Rui Wang, De-Yi Wang*. Nickel Metal–Organic Framework Derived Hierarchically Mesoporous Nickel Phosphate toward Smoke Suppression and Mechanical Enhancement of Intumescent Flame Retardant Wood Fiber/Poly(lactic acid) Composites. *ACS Sustainable Chem. Eng*, 2019, 7, 10, 9272-9280. <https://doi.org/10.1021/acssuschemeng.9b00174>

156. Gizem Kahraman, De-Yi Wang, Jonas von Irmer, Markus Gallei*, Evamarie Hey-Hawkins*, Tarik Eren. Synthesis and Characterization of Phosphorus and Carborane-Containing

Polyoxanorbornene Block Copolymers. *Polymers*,2019,11(4), 613.
<https://doi.org/10.3390/polym11040613>

155. Rong-KunJian, Yuan-Fang Ai, Long Xia, Zhi-Peng Zhang, De-Yi Wang*. Organophosphorus heteroaromatic compound towards mechanically reinforced and low-flammability epoxy resin. *Compos Part B-Eng*, 2019,168,458-466. <https://doi.org/10.1016/j.compositesb.2019.03.052>

154. W.Liu, J.Sanz, C.Pecharromán ,I.Sobrados, S.Lopez-Esteban, R.Torrecillas, De-Yi Wang, J.S.Moya, B.Caba*. Synthesis, characterization and applications of low temperature melting glasses belonging to P2O5-CaO-Na2O system. *Ceram Int*, 2019, 45 (9), 12234-12242. <https://doi.org/10.1016/j.ceramint.2019.03.133>

153. Paulina Szymoniak, Zhi Li, De-Yi Wang*, Andreas Schönhals*. Dielectric and flash DSC investigations on an epoxy based nanocomposite system with MgAl layered double hydroxide as nanofiller. *Thermochim Acta*, 2019, 677,151-161. <https://doi.org/10.1016/j.tca.2019.01.010>

152. Zhi Li, Zhiqi Liu, Jing Zhang, Can Fu, Udo Wagenknecht, De-Yi Wang*. io-based layered double hydroxide nanocarrier toward fire-retardant epoxy resin with efficiently improved smoke suppression. *Chem Eng J*, 2019, 378, 122046. <https://doi.org/10.1016/j.cej.2019.122046>

151. Jing Zhang, Zhi Li, Lu Zhang, Javier García Molleja, De-Yi Wang*. Bimetallic metal-organic framework and graphene oxide nano-hybrids induced carbonaceous reinforcement towards fire retardant epoxy: A novel alternative carbonization mechanism. *Carbon*, 2019, 153, 407-416. <https://doi.org/10.1016/j.carbon.2019.07.003>

150. Tao-Ping Ye, Shi-Fu Liao, Yi Zhang. Ming-Jun Chen*, Yao Xiao, Xing-Ya Liu, Zhi-Guo Liu, De-Yi Wang*. Cu(0) and Cu(II) decorated graphene hybrid on improving fireproof efficiency of intumescent flame-retardant epoxy resins. *Compos Part B-Eng*,2019,175,107189. <https://doi.org/10.1016/j.compositesb.2019.107189>

149. Abbas Mohammadi*, De-Yi Wang, Alireza SheikhHosseini, Jimena De La Vega. Effect of intercalation of layered double hydroxides with sulfonate-containing calix [4] arenes on the flame retardancy of castor oil-based flexible polyurethane foams. *Polym Test*, 2019, 79,106055. <https://doi.org/10.1016/j.polymertesting.2019.106055>

148. Qinghong Kong, Youliang Sun, Caijiao Zhang, Haomin Guan, Junhao Zhang, De-Yi Wang*, Feng Zhang. Ultrathin iron phenyl phosphonates nanosheets with appropriate thermal stability for improving fire safety in epoxy. *Compos Sci Technol*, 2019,182,107748. <https://doi.org/10.1016/j.compscitech.2019.107748>

147. Xiao-Long Li, Fu-Hui Zhang, Rong-Kun Jian*, Yuan-Fang, Jin-Lu, Guo-Jing Hui, De-Yi Wang*. Influence of eco-friendly calcium gluconate on the intumescent flame-retardant epoxy resin: Flame retardancy, smoke suppression and mechanical properties. *Compos Part B-Eng*, 2019, 176,107200. <https://doi.org/10.1016/j.compositesb.2019.107200>

146. Sergio de Juan, Junhao Zhang, Pablo Acuña, Shibin Nie, Zhiqi Liu, Wen Zhang*, María Luisa Puertas, Antonio Esteban-Cubillo, Julio Santarén, De-Yi Wang*. An efficient approach to improving fire retardancy and smoke suppression for intumescent flame-retardant polypropylene

composites via incorporating organo-modified sepiolite. *Fire Mater*, 2019, 43, 961-970. <https://doi.org/10.1002/fam.2757>

145. Zhida Zhang, Xueli Li, Yongshuai Yuan, Ye-Tang Pan*, De-Yi Wang, Rongjie Yang. Confined Dispersion of Zinc Hydroxystannate Nanoparticles into Layered Bimetallic Hydroxide Nanocapsules and Its Application in Flame-Retardant Epoxy Nanocomposites. *ACS Appl. Mater. Interfaces*, 2019, 11, 43, 40951-40960. <https://doi.org/10.1021/acsami.9b15393>

144. Zhi Li, Jing Zhang, Shibin Nie, Xin Wen, Soundes Djaziri, De-Yi Wang*. Bioinspired growth of iron derivatives on mesoporous silica: effect on thermal degradation and fire behavior of polystyrene. *Nanotechnology*, 2019, 31, 065601. DOI:10.1088/1361-6528/ab4e46

143. Jing Zhang, Zhi Li, Lu Zhang, Yunxian Yang, De-Yi Wang*. Green Synthesis of Biomass Phytic Acid-Functionalized UiO-66-NH₂ Hierarchical Hybrids toward Fire Safety of Epoxy Resin. *ACS Sustainable Chem. Eng.*, 2019, 8(2): 994-1003. <https://doi.org/10.1021/acssuschemeng.9b05658>

2018

142. Ehsan Naderi Kalali, Anabel Montes, Xin Wang, Lu Zhang, Marjan E Shabestari, and De-Yi Wang*. Effect of phytic acid-modified layered double hydroxide on flammability and mechanical properties of intumescent flame retardant polypropylene system. *Fire Mater*, 2018,42(2), 213-220. <https://doi.org/10.1002/fam.2482>

141. Ye-Tang Pan, Miguel Castillo-Rodríguez, De-Yi Wang*. Mesoporous metal oxide/pyrophosphate hybrid originated from reutilization of water treatment resin as a novel fire hazard suppressant. *Mater Chem Phys*, 2018, 203, 49-57. <https://doi.org/10.1016/j.matchemphys.2017.09.040>

140. Zhi Li, Daniel Fernandez Expostio, Alejandro Jiménez González, De-Yi Wang*. Insightful investigation of smoke suppression behavior and mechanism of polystyrene with ferrocene: an important role of intermediate smoke. *Fire Mater*, 2018,42(3), 286-295. <https://doi.org/10.1002/fam.2491>

139. Zhi Li, Alejandro Jiménez González, Babu Heeralal Vignesh, De-Yi Wang*. Covalent assembly of MCM-41 nanospheres on graphene oxide for improving fire retardancy and mechanical property of epoxy resin. *Compos Part B-Eng*, 2018, 138, 101-112. <https://doi.org/10.1016/j.compositesb.2017.11.001>

138. Qinghong Kong, Ting Wu, Junhao Zhang, De-Yi Wang*. Simultaneously improving flame retardancy and dynamic mechanical properties of epoxy resin nanocomposites through layered copper phenylphosphate. *Compos Sci Technol*. 2018, 154, 136-144. <https://doi.org/10.1016/j.compscitech.2017.10.013>

137. Shuidong Zhang, Zesheng Lin, GuoJiang*, Junsheng Wang, De-Yi Wang*. Construction of chelation structure between Ca²⁺ and starch via reactive extrusion for improving the performances

of thermoplastic starch. *Compos Sci Technol.* 2018, 159, 59-69. <https://doi.org/10.1016/j.compscitech.2018.02.027>

136. Lu Zhang, Zhi Li, Ye-Tang Pan, Adriana Pérez Yáñez, Shuang Hu, Xiu-Qin Zhang, Rui Wang, De-Yi Wang*. Polydopamine induced natural fiber surface functionalization: a way towards flame retardancy of flax/poly(lactic acid) biocomposites. *Compos Part B-Eng.* 2018, 154(1), 56-63. <https://doi.org/10.1016/j.compositesb.2018.07.037>

135. Rong-Kun Jian, Long Xia, Yuan-Fang Ai, De-Yi Wang*. Novel Dihydroxy-Containing Ammonium Phosphate Based Poly (Lactic Acid): Synthesis, Characterization and Flame Retardancy. *Polymers*, 2018, 10(8), 871. <https://doi.org/10.3390/polym10080871>

134. Zhi-Qi Liu, Zhi Li, Yun-Xian Yang, Yan-Ling Zhang, Xin Wen, Na Li, Can Fu, Rong-Kun Jian, Li-Juan Li, De-Yi Wang*. A Geometry Effect of Carbon Nanomaterials on Flame Retardancy and Mechanical Properties of Ethylene-Vinyl Acetate/Magnesium Hydroxide Composites. *Polymers*, 2018, 10(9), 1028. <https://doi.org/10.3390/polym10091028>

133. Yi Wen, Zhou Cheng, Wenxiong Li, Zhi Li, Duijun Liao, Xiaoping Hu*, Ning Pan, Deyi Wang, T. Richard Hull*. A novel oligomer containing DOPO and ferrocene groups: Synthesis, characterization, and its application in fire retardant epoxy resin. *Polym. Degrad. Stab.*, 2018, 156, 111-124. <https://doi.org/10.1016/j.polymdegradstab.2018.08.010>

132. Zhi Li, Zhiqi Liu, François Dufosse, Luke Yan, De-Yi Wang*. Interfacial engineering of layered double hydroxide toward epoxy resin with improved fire safety and mechanical property. *Compos Part B-Eng*, 2018, 152(1), 336-346. <https://doi.org/10.1016/j.compositesb.2018.08.094>

131. Zhi Li, Junhao Zhang, Francios Dufosse and De-Yi Wang*. Ultrafine nickel nanocatalyst-engineering organic layered double hydroxide towards super-efficiently fire-safe epoxy resin via interfacial catalysis. *J. Mater. Chem. A*, 2018, 6, 8488-8498. <https://doi.org/10.1039/C8TA00910D>

130. Shibin Nie, Wei Wu, Yetang Pan, Xiang Dong, Benxia Li, De-Yi Wang. Studies on intumescent flame retardant polypropylene composites based on biodegradable wheat straw. *Fire Mater*, 2018, 42(7), 703-709. <https://doi.org/10.1002/fam.2523>

129. Xiaolu Li, Xiuqin Zhang*, Guoming Liu*, Zhongkai Yang, Bo Yang, Yue Qi, Rui Wang and De-Yi Wang*. Effect of stereo complex crystal and flexible segments on the crystallization and tensile behavior of poly(L-lactide). *RSC Adv.*, 2018, 8, 28453-28460. <https://doi.org/10.1039/C8RA05355C>

128. Pengcheng Zhao, Zhiqi Liu, Xueyi Wang, Ye-Tang Pan, Ines Kuehnert, Michael Gehde, De-Yi Wang*, and Andreas Leuteritz*. Renewable vanillin based flame retardant for poly(lactic acid): a way to enhance flame retardancy and toughness simultaneously. *RSC Adv.*, 2018, 8, 42189-42199. <https://doi.org/10.1039/C8RA08531E>

127. Zhi Li, Sara Isabel, Montero Lira, Lu Zhang, Daniel Fernández Expósito, Vignesh Babu Heeralal, De-Yi Wang*. Bio-inspired engineering of boron nitride with iron-derived nanocatalyst toward enhanced fire retardancy of epoxy resin. *Polym Degrad Stabil*, 2018, 157, 119-130. <https://doi.org/10.1016/j.polymdegradstab.2018.10.005>

126. Jian Jing, Yan Zhang*, Zheng-Ping Fang, De-Yi Wang. Core-shell flame retardant/graphene oxide hybrid: a self-assembly strategy towards reducing fire hazard and improving toughness of polylactic acid. *Compos Sci Technol*, 2018, 165, 161-167. <https://doi.org/10.1016/j.compscitech.2018.06.024>

125. Zhi Li, Jiang Wang, Daniel Fernández Expósito, Jing Zhang, Can Fu, Dean Shi*, De-Yi Wang*. High-performance carrageenan film based on carrageenan intercalated layered double hydroxide with enhanced properties: Fire safety, thermal stability and barrier effect. *Compos Commun*, 2018, 9, 1-5. <https://doi.org/10.1016/j.coco.2018.03.007>

124. Xin Wang, Ehsan Naderi Kalali, Weiyi Xing, and De-Yi Wang*. CO₂ Induced Synthesis of Zn-Al Layered Double Hydroxide Nanostructures towards Efficiently Reducing Fire Hazards of Polymeric Materials. *Nano Adv.*, 2018, 3(2), 12-17. <http://doi.org/10.22180/na221>

123. Xiao-lu Li, Rui Wang, Cui-fang Yang, Zhen-feng Dong, Xiu-qin Zhang, Du-jin Wang and De-Yi Wang. Effect of Poly (D-lactic acid) Block Copolymers with Soft Chains on the Tensile Behavior of Poly (L-lactic acid). *Acta Polym Sin*, 2018, 5, 598-606. [10.11777/j.issn1000-3304.2017.17197](https://doi.org/10.11777/j.issn1000-3304.2017.17197)

122. Xiuqin Zhang*, Yongai Yin, Yan Song, Xiaolu Li, Zhenfeng Dong, Rui Wang*, De-Yi Wang. Structure mediation and ductility enhancement of poly(L-lactide) by random copolymer poly(D-lactide-co-epsilon-caprolactone). *J Polym Eng*, 2018, 38 (9), 819-826. <https://doi.org/10.1515/polyeng-2017-0449>

121. Junhao Zhang, Qinghong Kong, De-Yi Wang*. Simultaneously improving the fire safety and mechanical properties of epoxy resin with Fe-CNTs via large-scale preparation. *J. Mater. Chem. A*, 2018, 6, 6376-6386. <https://doi.org/10.1039/C7TA10961J>

2017

120. Qinghong Kong, Hongkai Zhang, Lu Zheng, De-Yi Wang*, Junhao Zhang*. Effect on thermal and combustion behaviors of montmorillonite intercalation nickel compounds in polypropylene/IFR system. *Polym Advan Technol*, 2017, 28(8), 965-970. <https://doi.org/10.1002/pat.3713>

119. Yun Liu, Qing-Hong Kong, Xiao-Min Zhao, Ping Zhu, Jianqing Zhao, Antonio Esteban-Cubillo, Julio Santarén, De-Yi Wang*. Effect of Fe₃O₄-doped sepiolite on the flammability and thermal degradation properties of epoxy composites. *Polym Advan Technol*, 2017, 28(8): 971-978. <https://doi.org/10.1002/pat.3715>

118. Yun Liu*, Jin-Chao Zhao, Chuan-Jie Zhang, Li Cui, Yi Guo, Ping Zhu, Hao Zhang, Zhi-Wei Zheng, De-Yi Wang*. Flame retardancy and thermal degradation properties of cotton/alginate fabric. *J Therm Anal Calorim*, 2017, 127: 1543-1551. <https://doi.org/10.1007/s10973-016-5418-6>

117. Mohammad Rajaeia*, De-Yi Wang, Debes Bhattacharyya. Combined effects of ammonium polyphosphate and talc on the fire and mechanical properties of epoxy/glass fabric composites. *Compos Part B-Eng*, 2017, 113, 381-390. <https://doi.org/10.1016/j.compositesb.2017.01.039>

116. Xiaomin Zhao, Lingwei Yang, Francisco Hueto Martin, Xiu-Qin Zhang, Rui Wang, De-Yi Wang*. Influence of phenylphosphonate based flame retardant on epoxy/glass fiber reinforced composites (GRE): Flammability, mechanical and thermal stability properties. *Compos Part B-Eng*, 2017, 110, 511–519. <https://doi.org/10.1016/j.compositesb.2016.10.090>
115. Junwei Gu*, Chaobo Liang, Xiaomin Zhao, Bin Gan, Hua Qiu, Yonqiang Guo, Xutong Yang, Qiuyu Zhang*, De-Yi Wang*. Highly thermally conductive flame-retardant epoxy nanocomposites with reduced ignitability and excellent electrical conductivity. *Compos Sci Technol*, 2017, 139, 83-89. <https://doi.org/10.1016/j.compscitech.2016.12.015>
114. Xiaomin Zhao, Dan Xiao, Juan Picón Alonso, De-Yi Wang*. Inclusion complex between beta-cyclodextrin and phenylphosphonicdiamide as novel bio-based flame retardant to epoxy: Inclusion behavior, characterization and flammability. *Mater Design*, 2017, 114, 623-632. <https://doi.org/10.1016/j.matdes.2016.11.093>
113. Jing Leng, Nianjun Kang, De-Yi Wang, Andreas Wurm, Christoph Schick, Andreas Schönhals. Crystallization behavior of nanocomposites based on poly(l-lactide) and MgAl layered double hydroxides – Unbiased determination of the rigid amorphous phases due to the crystals and the nanofiller. *Polymer*, 2017, 108, 257-264. <https://doi.org/10.1016/j.polymer.2016.11.065>
112. Ye-Tang Pan, Xin Wang, Zhi Li, De-Yi Wang*. A facile approach towards large-scale synthesis of hierarchically nanoporous SnO₂@Fe₂O₃ 0D/1D hybrid and its effect on flammability, thermal stability and mechanical property of flexible poly(vinyl chloride). *Compos Part B-Eng*, 2017, 1, 46-55. <https://doi.org/10.1016/j.compositesb.2016.11.009>
111. Ye-Tang Pan, Lu Zhang, Xiaomin Zhao and De-Yi Wang*. Interfacial engineering of renewable metal organic framework derived honeycomb-like nanoporous aluminum hydroxide with tunable porosity. *Chem. Sci.*, 2017, 8, 3399-3409. <https://doi.org/10.1039/C6SC05695D>
110. Xin Wang, Ehsan Naderi Kalali, Jin-Tao Wan, De-Yi Wang*. Carbon-family materials for flame retardant polymeric materials. *Prog in Polym Sci*, 2017, 69, 22-46. <https://doi.org/10.1016/j.progpolymsci.2017.02.001>
109. Zhi Li, De-Yi Wang*. Nano-architected mesoporous silica decorated with ultrafine Co₃O₄ toward an efficient way to delaying ignition and improving fire retardancy of polystyrene. *Mater Design*. 2017, 129, 69-81. <https://doi.org/10.1016/j.matdes.2017.05.021>
108. Marjan E. Shabestari, Eshan N. Kalali, Viviana Jehová González, De-Yi Wang, Juan P. Fernández-Blázquez, Juan Baselga*, Olga Martin. Effect of nitrogen and oxygen doped carbon nanotubes on flammability of epoxy nanocomposites. *Carbon*, 2017, 121, 193-200. <https://doi.org/10.1016/j.carbon.2017.05.087>
107. Zhi Li, Daniel Fernández Expósito, Alejandro Jiménez González, De-Yi Wang*. Natural halloysite nanotube based functionalized nanohybrid assembled via phosphorus-containing slow release method: A highly efficient way to impart flame retardancy to polylactide. *Eur Polym J*, 2017, 93, 458-470. <https://doi.org/10.1016/j.eurpolymj.2017.06.021>

106. Cheng Li, Deqi Zhang, Linbo Wu, Hong Fan*, De-Yi Wang*, Bo-Geng Li. Ring-opening copolymerization of mixed cyclic monomers: a facile, versatile and structure-controllable approach to preparing poly(methylphenylsiloxane) with enhanced thermal stability. *Ind. Eng. Chem. Res.*, 2017, 56 (25), 7120-7130. <https://doi.org/10.1021/acs.iecr.7b01279>
105. Zhi Li, Lejing Liu, Alejandro Jiménez González, De-Yi Wang*. Bioinspired polydopamine-induced assembly of ultrafine Fe(OH)₃ nanoparticles on halloysite toward highly efficient fire retardancy of epoxy resin via an action of interfacial catalysis. *Polym Chem-UK*, 2017, 8, 3926-3936. <https://doi.org/10.1039/C7PY00660H>
104. Ye-Tang Pan, De-Yi Wang*. Fabrication of low-fire-hazard flexible poly (vinyl chloride) via reutilization of heavy metal biosorbents. *J Hazard Mater*, 2017, 339, 143-153. <https://doi.org/10.1016/j.jhazmat.2017.05.047>
103. Dan Xiao, Zhi Li, Uwe Gohs, Udo Wagenknecht, Brigitte Voit and De-Yi Wang*. Functionalized allylamine polyphosphate as a novel multifunctional highly efficient fire retardant for polypropylene. *Polym Chem-UK*, 2017, 8, 6309-6318. <https://doi.org/10.1039/C7PY01315A>
102. Dan Xiao, Zhi Li, Xiaomin Zhao, Uwe Gohs, Udo Wagenknecht, Brigitte Voit, De-Yi Wang*. Functional organoclay with high thermal stability and its synergistic effect on intumescent flame retardant polypropylene. *Appl Clay Sci*, 2017, 143, 192-198. <https://doi.org/10.1016/j.clay.2017.03.039>
101. Jing Leng, Nianjun Kang, De-Yi Wang, Jana Falkenhagen, Andreas F. Thünemann, and Andreas Schönhals*. Structure–property relationships of nanocomposites based on polylactide and layered double hydroxides–comparison of MgAl and NiAl LDH as nanofiller. *Macromol Chem Phys*, 2017, 218(20), 1700232. <https://doi.org/10.1002/macp.201700232>
100. Ye-Tang Pan, Jintao Wan, Xuanliang Zhao, Cheng Li, De-Yi Wang*. Interfacial growth of MOF-derived layered double hydroxide nanosheets on graphene slabs towards fabrication of multifunctional epoxy nanocomposites. *Chem Eng J*, 2017, 330, 1222-1231. <https://doi.org/10.1016/j.cej.2017.08.059>
99. Dui-Jun Liao, Qi-Kui Xu, Richard W. McCabe, Babu Heeralal Vignesh, Xiao-Ping Hu*, Ning Pan, De-Yi Wang*, T.Richard Hull. Ferrocene-based nonphosphorus copolymer: synthesis, high-charring mechanism, and its application in fire retardant epoxy resin. *Ind. Eng. Chem. Res.*, 2017, 56(44), 12630-12643. <https://doi.org/10.1021/acs.iecr.7b02980>
98. Weijun Yang, Xiaomin Zhao, Elena Fortunati, Franco Dominici, Jose M Kenny, Debora Puglia*, De-Yi Wang*. Effect of cellulose nanocrystals on fire, thermal and mechanical behavior of N,N-diallylphenylphosphoricdiamide modified poly(lactic acid). *J Renew Mater*, 2017, 5 (5), 423-434. <https://doi.org/10.7569/JRM.2017.634146>

2016

97. Yun Liu, Jin-Chao Zhao, Chuan-Jie Zhang, Yi Guo, Ping Zhu*, De-Yi Wang*. Effect of manganese and cobalt ions on flame retardancy and thermal degradation of bio-based alginate films. *J Mater Sci*, 2016, 51, 1052-1065. <https://doi.org/10.1007/s10853-015-9435-9>
96. Yun Liu, Heeralal Vignesh Babu, Jianqing Zhao, Asier Goñi-Urriaga, Raquel Sainz, Rafael Ferritto, Marcos Pita, De-Yi Wang*. Effect of Cu-doped graphene on the flammability and thermal properties of epoxy composites. *Compos Part B-Eng*, 2016, 89, 108-116. <https://doi.org/10.1016/j.compositesb.2015.11.035>
95. Jintao Wan, Bin Gan, Cheng Li, Jon Molina-Aldareguia, Ehsan Naderi Kalali, Xin Wang, De-Yi Wang*. A sustainable, eugenol-derived epoxy resin with high biobased content, modulus, hardness and low flammability: Synthesis, curing kinetics and structure-property relationship. *Chem Eng J*, 2016, 284, 1080-1093. <https://doi.org/10.1016/j.cej.2015.09.031>
94. Xiaomin Zhao, Francisco Reyes Guerrero, Javier Llorca, and De-Yi Wang*. New Superefficiently Flame-Retardant Bioplastic Poly (lactic acid): Flammability, Thermal Decomposition Behavior, and Tensile Properties. *ACS Sustainable Chem. Eng.*, 2016, 4(1), 202-209. <https://doi.org/10.1021/acssuschemeng.5b00980>
93. Yun Liu*, Xi-Ran Zhao, Ya-Li Peng, Dan Wang, Lingwei Yang, Hao Peng, Ping Zhu, De-Yi Wang*. Effect of reactive time on flame retardancy and thermal degradation behavior of bio-based zinc alginate film. *Polym Degrad Stabil*, 2016, 127, 20-31. <https://doi.org/10.1016/j.polymdegradstab.2015.12.024>
92. Xiaomin Zhao, Sergio de Juan, Francisco Reyes Guerrero, Zhi Li, Javier Llorca, De-Yi Wang*. Effect of N,N'-diallyl-phenylphosphoricdiamide on ease of ignition, thermal decomposition behavior and mechanical properties of poly (lactic acid). *Polym Degrad Stabil*, 2016, 127, 2-10. <https://doi.org/10.1016/j.polymdegradstab.2016.01.014>
91. Yun Liu, Chuan-Jie Zhang, Jin-Chao Zhao, Yi Guo, Ping Zhu*, De-Yi Wang*. "Bio-based barium alginate film: Preparation, flame retardancy and thermal degradation behavior." *Carbohydr Polym*, 2016, 139, 106-114. <https://doi.org/10.1016/j.carbpol.2015.12.044>
90. Ehsan Naderi Kalali, Xin Wang, and De-Yi Wang*. Multifunctional Intercalation in Layered Double Hydroxide: Toward Multifunctional Nanohybrid for Epoxy Resin. *J. Mater. Chem. A*, 2016, 4, 2147-2157. <https://doi.org/10.1039/C5TA09482H>
89. Jintao Wan, Jianqing Zhao, Bin Gan, Cheng Li, Jon Molina-Aldareguia, Ying Zhao, Ye-Tang Pan, and De-Yi Wang*. Ultrastiff Biobased Epoxy Resin with High Tg and Low Permittivity: From Synthesis to Properties. *ACS Sustainable Chem. Eng.*, 2016, 4 (5), 2869-2880. <https://doi.org/10.1021/acssuschemeng.6b00479>
88. Dan Xiao, Zhi Li, Sergio De Juan, Uwe Gohs, Udo Wagenknecht, Brigitte Voit, De-Yi Wang*. Preparation, fire behavior and thermal stability of a novel flame retardant polypropylene system. *J Therm Anal Calorim*, 2016, 125 (1), 321-329. <https://doi.org/10.1007/s10973-016-5352-7>
87. Yun Liu*, Ye-Tang Pan, Xin Wang, Pablo Acuña, Ping Zhu, Udo Wagenknecht, Gert Heinrich, Xiu-Qin Zhang, Rui Wang, De-Yi Wang*. Effect of phosphorus-containing inorganic-organic

hybrid coating on the flammability of cotton fabrics: Synthesis, Characterization and Flammability. *Chem Eng J*, 2016, 294, 167-175. <https://doi.org/10.1016/j.cej.2016.02.080>

86. Debdipta Basu, Amit Das*, De-Yi Wang*, Jinu Jacob George, Klaus Werner Stöckelhuber, Regine Boldt, Andreas Leuteritz and Gert Heinrich. Fire-safe and environmentally friendly nanocomposites based on layered double hydroxides and ethylene propylene diene elastomer. *RSC Adv.*, 2016, 6, 26425-26436. <https://doi.org/10.1039/C5RA27444C>

85. Cheng Li, Jintao Wan, Ye-Tang Pan, Peng-Cheng Zhao, Hong Fan*, and De-Yi Wang*. Sustainable, Biobased Silicone with Layered Double Hydroxide Hybrid and Their Application in Natural-Fiber Reinforced Phenolic Composites with Enhanced Performance. *ACS Sustainable Chem. Eng.*, 2016, 4(6), 3113–3121. <https://doi.org/10.1021/acssuschemeng.6b00134>

84. Ehsan Naderi Kalali, Xin Wang, and De-Yi Wang*. Synthesis of Fe₃O₄ Nano-Sphere@MgAl Layered Double Hydroxide Hybrid and Application in Fabricating Multifunctional Epoxy Nanocomposites. *Ind. Eng. Chem. Res.*, 2016, 55 (23), 6634-6642. <https://doi.org/10.1021/acs.iecr.5b04873>

83. Xiaomin Zhao, Heeralal Vignesh, Javier Llorca and De-Yi Wang*. Impact of halogen-free flame retardant with varied phosphorus's chemical surrounding on the properties of diglycidyl ether of bisphenol-A type epoxy resin: synthesis, fire behaviour, flame-retardant mechanism and mechanical properties. *RSC Adv.*, 2016, 6, 59226-59236. <https://doi.org/10.1039/C6RA13168A>

82. Wen Jiang, Zhiming Zhou, Dan Wang*, Xiaohua Zhou, Renyou Tao, Yang Yang, Yexin Shi, Guiluo Zhang, Deyi Wang, Zhen Zhou. Transglutaminase catalyzed hydrolyzed wheat gliadin grafted with chitosan oligosaccharide and its characterization. *Carbohydr Polym*, 2016, 153, 105-114. <https://doi.org/10.1016/j.carbpol.2016.07.097>

81. Ye-Tang Pan, Cédric Trempont, and De-Yi Wang*. Hierarchical nanoporous silica doped with tin as novel multifunctional hybrid material to flexible poly(vinyl chloride) with greatly improved flame retardancy and mechanical properties. *Chem Eng J*, 2016, 295, 451-460. <https://doi.org/10.1016/j.cej.2016.03.060>

80. Junhao Zhang, Qinghong Kong, Lingwei Yang and De-Yi Wang*. Few layered Co (OH)₂ ultrathin nanosheets based polyurethane nanocomposites with reduced fire hazard: from eco-friendly flame retardance to sustainable recycling. *Green Chem.*, 2016, 18, 3066-3074. <https://doi.org/10.1039/C5GC03048J>

79. Xiang Dong, ShiBin Nie, ZeGong Liu, De-Yi Wang. Study of the synergistic effect of nickel phosphate nanotubes (NiPO-NT) on intumescent flame retardant polypropylene composites. *J Therm Anal Calorim*, 2016, 126 (3), 1323–1330. <https://doi.org/10.1007/s10973-016-5681-6>

2015

78. Xin Wang, Ehsan Naderi Kalali, De-Yi Wang*. Two-Dimensional Inorganic Nanomaterials: A Solution to Flame Retardant Polymers. *Nano Adv.*, 2015, 1, 1-16.

77. Junhao Zhang, Sergio de Juan, Antonio Esteban-Cubillo, Julio Santarén, De-Yi Wang*. Effect of orano-modified nanosepiolite on fire behaviors and mechanical performance of polypropylene composites. *Chinese J Chem*, 2015, 33(2), 285-291. <https://doi.org/10.1002/cjoc.201400828>
76. Shibin Nie*, Can Zhou, Chao Peng, Lei Liu, Chi Zhang, Xiang Dong, De-Yi Wang*. Thermal oxidative degradation kinetics of novel intumescent flame-retardant polypropylene composites. *J Therm Anal Calorim*, 2015, 120(2), 1183-1191. <https://doi.org/10.1007/s10973-015-4393-7>
75. Xin Wang, Manuel Quintero Romero, Xiu-Qin Zhang, Rui Wang, De-Yi Wang*. Intumescent multilayer hybrid coating for flame retardant cotton fabrics based on layer-by-layer assembly and sol-gel process. *RSC Adv*, 2015, 5, 10647-10655. <https://doi.org/10.1039/C4RA14943B>
74. Ye-tang Pan, De-Yi Wang*. One-step hydrothermal synthesis of nano zinc carbonate and its use as a promising substitute of antimony trioxide in flame retardant flexible poly(vinyl chloride). *RSC Adv*, 2015, 5, 27837-27843. <https://doi.org/10.1039/C5RA02987B>
73. Ehsan Naderi Kalali, Xin Wang and De-Yi Wang*. Functionalized layered double hydroxide-based epoxy nanocomposites with improved flame retardancy and mechanical properties. *J. Mater. Chem. A*, 2015, 3, 6819-6826. <https://doi.org/10.1039/C5TA00010F>
72. Ehsan Naderi Kalali, Sergio De Juan, Xin Wang, Shibin Nie, Rui Wang, De-Yi Wang*. Comparative study on synergistic effect of LDH and zirconium phosphate with aluminum trihydroxide on flame retardancy of EVA composites. *J Therm Anal Calorim*, 2015, 121(2), 619-626. <https://doi.org/10.1007/s10973-015-4598-9>
71. Cheng Li, Jintao Wan, Ehsan Naderi Kalali, Hong Fan*, De-Yi Wang*. Synthesis and characterization of functional eugenol derivative based layered double hydroxide and its use as nano flame-retardant in epoxy resin. *J Mater Chem A*, 2015, 3, 3471-3479. <https://doi.org/10.1039/C4TA05740F>
70. Yun Liu, Jin-Chao Zhao, Chuan-Jie Zhang, Yi Guo, Li Cui, Ping Zhu*, De-Yi Wang*. Bio-based nickel alginate and copper alginate films with excellent flame retardancy: preparation, flammability and thermal degradation behavior. *RSC Adv*, 2015, 5, 64125-64137. <https://doi.org/10.1039/C5RA11048C>
69. Jintao Wan, Bin Gan, Cheng Li, Jon Molina-Aldareguia, Zhi Li, Xin Wang, De-Yi Wang*. A novel biobased epoxy resin with high mechanical stiffness and low flammability: synthesis, characterization and properties. *J Mater Chem A*, 2015, 3, 21907-21921. <https://doi.org/10.1039/C5TA02939B>
68. Jing Leng, Purv J. Purohit, Nianjun Kang, De-Yi Wang*, Jana Falkenhagen, Franziska Emmerling, Andreas F. Thünemann, Andreas Schönhals*. Structure–property relationships of nanocomposites based on polylactide and MgAl layered double hydroxides. *Eur Polym J*, 2015, 68, 338-354. <https://doi.org/10.1016/j.eurpolymj.2015.05.008>
67. Xin Wang, Yvonne Spörer, Andreas Leuteritz, Ines Kuehnert, Udo Wagenknecht, Gert Heinrich, De-Yi Wang*. Comparative study of the synergistic effect of binary and ternary LDH with

intumescent flame retardant on the properties of polypropylene composites. *RSC Adv.*, 2015, 5, 78979-78985. <https://doi.org/10.1039/C5RA15565G>

66. Xin Wang, Ehsan Naderi Kalali, and De-Yi Wang*. Renewable Cardanol-Based Surfactant Modified Layered Double Hydroxide as a Flame Retardant for Epoxy Resin. *ACS Sustainable Chem. Eng.* 2015, 3, 12, 3281-3290. <https://doi.org/10.1021/acssuschemeng.5b00871>

65. Shibin Nie*, Chi Zhang, Chao Peng, De-Yi Wang, Daowei Ding, Qingliang He*. Study of the Synergistic Effect of Nanoporous Nickel Phosphates on Novel Intumescent Flame Retardant Polypropylene Composites. *J Spectrosc.*, 2015, 2015(1), 289298. <https://doi.org/10.1155/2015/289298>

64. Rongchuan Zhuang, Juan Yang, De-Yi Wang, Ya-Xi Huang*. Simultaneously enhancing the flame retardancy and toughness of epoxy by lamellar dodecyl-ammonium dihydrogen phosphate. *RSC Adv.*, 2015, 5, 100049-100053. <https://doi.org/10.1039/C5RA18358H>

63. Xin Wang, Ehsan Naderi Kalali, and De-Yi Wang*. In situ polymerization approach to functionalized MoS₂/nylon-6 nanocomposites with enhanced mechanical properties and thermal stability. *J. Mater. Chem. A*, 2015, 3, 24112-24120. <https://doi.org/10.1039/C5TA06071K>

2014

62. Raúl Muñoz, Sofia Delgado, Carlos González*, Bernardo López-Romano, De-Yi Wang, Javier Llorca. Modeling Lightning Impact Thermo-Mechanical Damage in Composite Materials. *Appl Compos Mater*, 2014, 21, 149-164. <https://doi.org/10.1007/s10443-013-9377-9>

61. Debdipta Basu, Amit Das*, Jinu Jacob George, De-Yi Wang, Klaus Werner Stöckelhuber, Udo Wagenknecht, Andreas Leuteritz, Burak Kutlu, Uta Reuter, and Gert Heinrich. Unmodified LDH as reinforcing filler for XNBR and the development of flame-retardant elastomer composites. *Rubber Chem Technol*, 2014, 87(4), 606-616. <https://doi.org/10.5254/rct.14.86920>

60. Xin Wang, Ye-Tang Pan, Jin-Tao Wan and De-Yi Wang*. An eco-friendly way to fire retardant flexible polyurethane foam: layer-by-layer assembly of fully bio-based substances. *RSC Adv*, 2014, 4, 46164-46169. <https://doi.org/10.1039/C4RA07972H>

59. Cheng Li, Nian-Jun Kang, Sofia Delgado Labrandero, Jintao Wan, Carlos González, De-Yi Wang*. Synergistic effect of carbon nanotube and polyethersulfone on flame retardancy of carbon fiber reinforced epoxy composites. *Ind. Eng. Chem. Res.*, 2014, 53(3), 1040-1047. <https://doi.org/10.1021/ie403378w>

58. I.M. Inuwa, Azman Hassan*, De-Yi Wang, S.A. Samsudin, M.K. Mohamad Haafiz, S.L. Wong, M. Jawaid. Influence of exfoliated graphite nanoplatelets on the flammability and thermal properties of polyethylene terephthalate/polypropylene nanocomposites. *Polym Degrad Stabil*, 2014, 110, 137-148. <https://doi.org/10.1016/j.polymdegradstab.2014.08.025>

57. Purv J. Purohit, De-Yi Wang, Andreas Wurm, Christoph Schick, Andreas Schönhals*. Comparison of thermal and dielectric spectroscopy for nanocomposites based on polypropylene

and Layered Double Hydroxide – Proof of interfaces. *Eur Polym J*, 2014, 55, 48-56. <https://doi.org/10.1016/j.eurpolymj.2014.03.005>

2013

56. Nianjun Kang, De-Yi Wang*. A green functional nanohybrid: preparation, characterization and properties of β -cyclodextrin based functional layered double hydroxide. *J. Mater. Chem. A.*, 2013, 1 (37), 11376 -11383. <https://doi.org/10.1039/C3TA12304A>

55. Meisam Shabanian, Nian-Jun Kang, De-Yi Wang*, Udo Wagenknecht and Gert Heinrich. Synthesis, characterization and properties of novel aliphatic–aromatic polyamide/functional carbon nanotube nanocomposites via in situ polymerization. *RSC Adv.*, 2013, 3, 20738-20745. <https://doi.org/10.1039/C3RA42582G>

54. Cheng Li, Hong Fan*, De-Yi Wang, Jijiang Hu, Jintao Wan*, Bogeng Li. Novel silicon-modified phenolic novolacs and their biofiber-reinforced composites: Preparation, characterization and performance. *Compos Sci Technol*, 2013, 87, 189-195. <https://doi.org/10.1016/j.compscitech.2013.08.016>

53. Sandip Rooj, Amit Das, Klaus Werner Stöckelhuber, De-Yi Wang, Vassilios Galiatsatos, Gert Heinrich*. Understanding the reinforcing behavior of expanded clay particles in natural rubber compounds. *Soft Matter*, 2013, 9, 3798-3808. <https://doi.org/10.1039/C3SM27519A>

52. Meisam Shabanian, Nian-Jun Kang, De-Yi Wang*, Udo Wagenknecht, Gert Heinrich. Synthesis of aromatic–aliphatic polyamide acting as adjuvant in polylactic acid (PLA)/ammonium polyphosphate (APP) system. *Polym. Degrad. Stab.*, 2013, 98(5), 1036-1042. <https://doi.org/10.1016/j.polymdegradstab.2013.02.007>

51. Hong-Bing Chen, Xue Dong, David A. Schiraldi, Li Chen*, De-Yi Wang, Yu-Zhong Wang*. Phosphorus-containing poly(trimethylene terephthalate) derived from 2-(6-oxido-6H-dibenz(c,e)(1,2)oxaphosphorin-6-yl)-1,4-hydroxy -ethoxy phenylene: Synthesis, thermal degradation, combustion, and pyrolysis behavior. *J Anal Appl Pyrol*, 2013, 99(1), 40-48. <https://doi.org/10.1016/j.jaap.2012.11.003>

50. A. Leuteritz, B. Kutlu, J. Meinel, De-Yi Wang, A. Das, U. Wagenknecht & G. Heinrich show less. Layered double hydroxides (LDH): a multifunctional versatile system for nanocomposites. *Mol Cryst Liq Cryst*, 2012, 556, 107-113. <https://doi.org/10.1080/15421406.2012.635923>

49. Nian-Jun Kang, De-Yi Wang*, Burak Kutlu, Peng-Cheng Zhao, Andreas Leuteritz, Udo Wagenknecht, and Gert Heinrich. A New Approach to Reducing the Flammability of Layered Double Hydroxide (LDH)-Based Polymer Composites: Preparation and Characterization of Dye Structure-Intercalated LDH and Its Effect on the Flammability of Polypropylene-Grafted Maleic Anhydride/d-LDH Composites. *ACS Appl. Mater. Interfaces*, 2013, 5(18), 8991-8997. <https://doi.org/10.1021/am4020555>

2012

48. Amit Das, Jinu Jacob George, Burak Kutlu, Andreas Leuteritz, De-Yi Wang, Sandip Rooj, René Jurk, Ramanujam Rajeshbabu, Klaus Werner Stöckelhuber, Vassilios Galiatsatos, Gert Heinrich*. A novel thermotropic elastomer based on highly-filled LDH-SSB composites. *Macromol Rapid Comm*, 2012, 33, 337-342. <https://doi.org/10.1002/marc.201100735>

47. De-Yi Wang*, Uwe Gohs, Nian-Jun Kang, Andreas Leuteritz, Regine Boldt, Udo Wagenknecht, Gert Heinrich. Method for Simultaneously Improving the Thermal Stability and Mechanical Properties of Poly (lactic acid): Effect of High-Energy Electrons on the Morphological, Mechanical, and Thermal Properties of PLA/MMT Nanocomposites. *Langmuir*, 2012, 28 (34), 12601-12608. <https://doi.org/10.1021/la3025099>

46. De-Yi Wang*, Amit Das, Andreas Leuteritz, R.N. Mahaling, Dieter Jehnichen, Udo Wagenknecht, Gert Heinrich. Structural characteristics and flammability of fire retarding EPDM/layered double hydroxide (LDH) nanocomposites. *RSC Adv*, 2012, 2, 3927-3933. [10.1039/C2RA20189E](https://doi.org/10.1039/C2RA20189E)

45. Purv J. Purohit, Jesus H. Sanché, De-Yi Wang*, Franziska Emmerling, Andreas Thünemann, Gert Heinrich and Andreas Schönhals*. Structure-Property Relationships of Nanocomposites based on Polypropylene and Layered Double Hydroxides. *Macromolecules*, 2012, 44, 4342-4354. <https://doi.org/10.1021/ma200323k>

44. Wei-Cheng Xiong, Li Chen*, Bin Zhao, De-Yi Wang, Yu-Zhong Wang. Polyamide 6 with a flame retardant encapsulated by polyamide 66: Flame retardation, thermo-decomposition and the potential mechanism. *Chinese J Polym Sci*, 2012, 30(2), 297-307. <https://doi.org/10.1007/s10118-012-1126-2>

43. Anindita Ghosh, Debaditya Bera, De-Yi Wang, Hartmut Komber, Aruna Kumar Mohanty, Susanta Banerjee*, Brigitte Voit*. Synthesis, characterization, and properties of new semifluorinated poly(arylene ether phosphine oxide)s. *Macromol Mater Eng*, 2012, 297, 145-154. <https://doi.org/10.1002/mame.201100139>

2011

42. Purv J. Purohit, De-Yi Wang*, Franziska Emmerling, Andreas F. Thünemann, Gert Heinrich, Andreas Schönhals. Arrangement of layered double hydroxide in a polyethylene matrix studied by a combination of complementary methods. *Polym*, 2011, 53(11), 2245-2254. <https://doi.org/10.1016/j.polymer.2012.03.041>

41. De-Yi Wang, Yan-Peng Song, Ling Lin, Xiu-Li Wang, Yu-Zhong Wang*. A Novel Phosphorus-Containing Poly (lactic acid) toward its Flame Retardation. *Polym*, 2011, 52(2), 233-238. <https://doi.org/10.1016/j.polymer.2010.11.023>

40. Amit Das, De-Yi Wang*, Andreas Leuteritz, Kalaivani Subramaniam, H.Chris Greenwell, Udo Wagenknecht and Gert Heinrich*. Preparation of zinc oxide free, transparent rubber-nanocomposites using a layered double hydroxide filler material. *J. Mater. Chem.*, 2011, 21, 7194-7200. <https://doi.org/10.1039/C0JM03784B>

39. Xue-Qi Liu, De-Yi Wang*, Xiu-Li Wang, Li Chen, Yu-Zhong Wang* Synthesis organo-modified α -Zirconium phosphate and its effect on the flame retardancy of IFR poly (lactic acid) systems. *Polym. Degrad. Stab.*, 2011, 96(5), 771-777. <https://doi.org/10.1016/j.polymdegradstab.2011.02.022>
38. Yan-Peng Song, De-Yi Wang*, Xiu-Li Wang*, Ling Lin, Yu-Zhong Wang. A method for simultaneously improving the flame retardancy and toughness of PLA. *Polymer for Advanced Technology*, 2011, 22, 2295-2301. <https://doi.org/10.1002/pat.1760>
37. Lian-Lian Wei, De-Yi Wang*, Hong-Bing Chen, Li Chen, Xiu-Li Wang, Yu-Zhong Wang* Effect of phosphorus-containing flame retardant on the thermal and early flaming behaviors of poly(lactic acid). *Polym. Degrad. Stab.*, 2011, 96(9), 1557-1561. <https://doi.org/10.1016/j.polymdegradstab.2011.05.018>
36. Qiang-Lin Li, Xiu-Li Wang*, De-Yi Wang, Yu-Zhong Wang, Xi-Ning Feng, Guang-Hong Zheng. Durable Flame Retardant Finishing of PET/Cotton Blends Using a Novel PVA-Based Phosphorus-Nitrogen Polymer. *J Appl Polym Sci*, 2011, 122(1), 342-353. <https://doi.org/10.1002/app.34182>
35. Zhi Hu, Li Chen, Bin Zhao, Yuan Luo, De-Yi Wang, Yu-Zhong Wang*. A Novel Efficient Halogen-Free Flame Retardant System for Polycarbonate. *Polym. Degrad. Stab.*, 2011, 96(3), 320-327. <https://doi.org/10.1016/j.polymdegradstab.2010.03.005>
34. Yun Liu, Jing Zhao, Cheng-Liang Deng, Li Chen, De-Yi Wang, Yu-Zhong Wang*. The Flame-Retardant Effect of Sepiolite on an Intumescent Flame-Retardant Polypropylene System. *Ind. Eng. Chem. Res.*, 2011, 50(4), 2047–2054. <https://doi.org/10.1021/ie101737n>
33. Anindita Ghosh*, Susanta Banerjee, De-Yi Wang, Hartmut Komber, Brigitte Voit. Synthesis, characterization, and properties of new siloxane grafted copolyimides. *J Appl Polym Sci*, 2011, 2959-2967. <https://doi.org/10.1002/app.34927>
32. Jian-Sheng Lin, Ya Liu*, De-Yi Wang, Qing Qin, Yu-Zhong Wang. Poly(vinyl alcohol)/Ammonium Polyphosphate Systems Improved Simultaneously Both Fire Retardancy and Mechanical Properties by Montmorillonite. *Ind. Eng. Chem. Res.*, 2011, 50(17), 9998-10005. <https://doi.org/10.1021/ie100674s>
31. Xiao-Ya Yuan, De-Yi Wang, Li Chen, Xiu-Li Wang, Yu-Zhong Wang*. Inherent flame retardation of bio-based poly (lactic acid) by incorporating phosphorus linked pendent group into the backbone. *Polym. Degrad. Stab.*, 2011, 96, 1669-1675. <https://doi.org/10.1016/j.polymdegradstab.2011.06.012>
30. De-Yi Wang*, Andreas Leuteritz, Maria Aufder Landwehr, Udo Wagenknecht, Gert Heinrich. Preparation and investigation of the combustion behaviour of Polypropylene /Organomodified MgAl-LDH micro-nanocomposite. *J Alloy Compd*, 2011, 509, 3497-3501. <https://doi.org/10.1016/j.jallcom.2010.12.138>

29. De-Yi Wang*, Amit Das, Fransis Reny Costa, Andreas Leuteritz, Yu-Zhong Wang, Udo Wagenknecht, Gert Heinrich. Synthesis of organo Co–Al layered double hydroxide via a novel single step self-assembling method and its use as flame retardant nanofiller in PP. *Langmuir*, 2010, 26(17), 14162-14169. <https://doi.org/10.1021/la102449m>

28. De-Yi Wang*, Andreas Leuteritz, Yu-Zhong Wang, Udo Wagenknecht, Gert Heinrich. Preparation and burning behaviours of flame retarding biodegradable poly(lactic acid) nanocomposite based on zinc aluminium layered double hydroxide. *Polym. Degrad. Stab.*, 2010, 95(12), 2474-2480. <https://doi.org/10.1016/j.polymdegradstab.2010.08.007>

27. Pei-Bang Dai, De-Yi Wang, Yu-Zhong Wang. Thermal Degradation and Combustion Behavior of a modified Intumescent Flame Retardant ABS Composite. *J Thermoplast Compos*, 2010, 23 (4), 473-486. <https://doi.org/10.1177/0892705708103404>

26. Qiang-Lin Li, Xiu-Li Wang*, De-Yi Wang, Wei-Cheng Xiong, Guang-Hong Zhong, Yu-Zhong Wang. A Novel Organophosphorus Flame Retardant: Synthesis and Durable Finishing of Poly(ethylene terephthalate)/Cotton Blends. *J Appl Polym Sci*, 2010, 3066-3074. <https://doi.org/10.1002/app.32074>

25. Yun Liu, Jun-Sheng Wang, Cheng-Liang Deng, De-Yi Wang, Yan-Peng Song, Yu-Zhong Wang*. The Synergistic Flame-Retardant Effect of O-MMT on the Intumescent Flame-Retardant PP/CA/APP Systems. *Polymer for Advanced Technology*, 2010, 21(11), 789-796. <https://doi.org/10.1002/pat.1502>

24. Jun-Sheng Wang, Hai-Bo Zhao, Xin-Guo Ge, Yun Liu, Li Chen, De-Yi Wang, Yu-Zhong Wang*. Novel Flame-Retardant and Anti-Dripping Branched Polyesters Prepared via Phosphorus-Containing Ionic Monomer as End-Capping Agent. *Ind. Eng. Chem. Res.*, 2010, 49(9), 4190–4196. <https://doi.org/10.1021/ie100057n>

2009

23. De-Yi Wang*, Francis Costa, Anastasia Vyalikh, Andreas Leuteritz, Ulrich Scheler, Dieter Jehnichen, Udo Wagenknecht, Liane Häußler, Heinrich, Gert. One-step Synthesis of Organic LDH and Its Comparison with Regeneration and Anion Exchange Method. *Chem. Mater.*, 2009, 21(19), 4490-4497. <https://doi.org/10.1021/cm901238a>

22. Jun-Sheng Wang, Yun Liu, Hai-Bo Zhao, Jiang Liu, De-Yi Wang, Yan-Peng Song, Yu-Zhong Wang*. Metal Compounds-Enhanced Flame Retardancy of Intumescent Epoxy Resins Containing Ammonium Polyphosphate. *Polym. Degrad. Stab.*, 2009, 94(4), 625-631. <https://doi.org/10.1016/j.polymdegradstab.2009.01.006>

21. Bo Li, Feng-Xia Dong, Xiu-Li Wang*, Juan Yang, De-Yi Wang, Yu-Zhong Wang. Organically modified rectorite toughened poly(lactic acid): Nanostructures, crystallization, and mechanical properties. *Europ Polym J*, 2009, 45(11): 2996-3003. <https://doi.org/10.1016/j.eurpolymj.2009.08.015>

20. De-Yi Wang, Lian-Lian Wei, Xin-Guo Ge, Ke-Ke Yang, Xiu-Li Wang, Yu-Zhong Wang. Non-isothermal crystallization behaviors of flame-retardant copolyester/montmorillonite nanocomposites. *J. Macromol. Sci. Phys.* 2009, 48(5), 927-940. <https://doi.org/10.1080/00222340903038380>
19. De-Yi Wang, Xue-Qi Liu, Jun-Sheng Wang, Yu-Zhong Wang, Anna A. Stec, T.Richard Hull. Preparation and characterisation of a novel fire retardant PET/ α -zirconium phosphate nanocomposite. *Polym. Degrad. Stab.* 2009, 94 (4), 544-549. <https://doi.org/10.1016/j.polymdegradstab.2009.01.018>
18. De-Yi Wang, Yan-Peng Song, Jun-Shen Wang, Xin-Guo Ge, Yu-Zhong Wang, Anna A Stec, T. Richard Hull. Double in-situ approach for the preparation of polymer nanocomposite with multi-functionality. *Nanoscale res lett*, 2009, 4, 303-306. <https://doi.org/10.1007/s11671-008-9242-1>
17. De-Yi Wang*, A. Leuteritz, U. Wagenknecht and G. Heinrich, Self-assembling organomodified Co/Al based layered double hydroxides (LDH) via one-step route. *Trans.Nonferrous Met. Soc. China*, 2009, 1479-1482. [https://doi.org/10.1016/S1003-6326\(09\)60055-8](https://doi.org/10.1016/S1003-6326(09)60055-8)
16. Yun-Hong Jiao, Xiu-Li Wang, Yu-Zhong Wang, De-Yi Wang, Yan-Li Zhai, Jian-Sheng Lin. Thermal Degradation and Combustion Behaviors of Flame-Retardant Polypropylene/Thermoplastic Polyurethane Blends. *J. Macromol. Sci. Phys.*, 2009, 48(5), 889-909. <https://doi.org/10.1080/00222340903028969>

2008

15. De-Yi Wang, Yun Liu, Yu-Zhong Wang, A. Anna Stec, T.Richard Hull, Dennis Price. Effect of metal chelates on the ignition and early flaming behaviour of intumescent fire-retarded polyethylene systems. *Polym. Degrad. Stab.* 2008, 93, (5), 1024-1030. <https://doi.org/10.1016/j.polymdegradstab.2007.12.011>
14. De-Yi Wang, Xiao-Xia Cai, Yun Liu, Jun-Sheng Wang, Yu-Zhong Wang. Preparation and flammability of a novel intumescent flame-retardant poly(ethylene-co-vinyl acetate) system. *Polym. Degrad. Stab.* 2008, 93(12), 2186-2192. <https://doi.org/10.1016/j.polymdegradstab.2008.07.032>
13. Yong Tang, De-Yi Wang, Xin-Ke Jing, Xin-Guo Ge, Bing Yang, Yu-Zhong Wang. A formaldehyde-free flame retardant wood particleboard system based on two-component polyurethane adhesive. *Journal of Applied Polymer Science*, 2008, 108, 1216-1222. <https://doi.org/10.1002/app.27662>
12. Pei-Bang Dai, Xiu-Li Wang, De-Yi Wang, Li Chen, Yu-Zhong Wang. Effect of Modified Intumescent Flame Retardant via Surfactant/Polyacrylate Latex on Property of Intumescent Flame Retardant ABS Composites. *J Macromol Sci B*, 2008, 47(6), 1087-1095. <https://doi.org/10.1080/00222340802403131>
11. Xin-Guo Ge, Chuan Wang, Zhi Hu, Xing Xiang, Jun-Sheng Wang, De-Yi Wang, Cong-Ping Liu, Yu-Zhong Wang. Phosphorus-Containing Telechelic Polyester-Based Ionomer: Facile Synthesis and Antidripping Effects. *J Polym SCI Pol Chem*, 2008, 46(9), 2994-3006. <https://doi.org/10.1002/pola.22636>

2007

10. De-Yi Wang, Yun Liu, Yu-Zhong Wang, C. Perdomo Artiles, T. Richard Hull, Dennis Price. Fire retardancy of a reactively extruded intumescent flame retardant polyethylene system enhanced

by metal chelates. *Polym. Degrad. Stab.* 2007, 92, 1592-1598. <https://doi.org/10.1016/j.polymdegradstab.2007.04.015>

9. Xin-Guo Ge, De-Yi Wang, Chuan Wang, Ming-Hai Qu, Jun-Sheng Wang, Chen-Shou Zhao, Yu-Zhong Wang. A novel phosphorus-containing copolyester/montmorillonite nanocomposites with improved flame retardancy. *Eur Polym J*, 2007, 43(7), 2882-2890. <https://doi.org/10.1016/j.eurpolymj.2007.03.040>

8. Wei Liu, Dan-Qi Chen, Yu-Zhong Wang, De-Yi Wang, Ming-Hai Qu. Char-Forming Mechanism of a Novel Polymeric Flame Retardant with Char Agent. *Polym. Degrad. Stab.*, 2007, 92, 1046-1052. <https://doi.org/10.1016/j.polymdegradstab.2007.02.009>

2006

7. De-Yi Wang, Xin-Guo Ge, Yu-Zhong Wang, Chuan Wang, Ming-Hai Qu, Qian Zhou. A novel phosphorus-containing poly (ethylene terephthalate) nanocomposite with both flame retardancy and anti-dripping effects. *Macromol. Mater. Eng.* 2006, 291, 638-645. <https://doi.org/10.1002/mame.200600017>

6. Ming-Hai Qu, Yu-Zhong Wang, Ya Liu, Xin-Guo Ge, De-Yi Wang, Chuan Wang. Flammability and Thermal Degradation Behaviors of Phosphorus-Containing Copolyester/BaSO₄ Nanocomposites. *J. Appl. Polym. Sci.*, 2006, 102, 564-570. <https://doi.org/10.1002/app.24304>

2005

5. De-Yi Wang, Yu-Zhong Wang*, Jun-Sheng Wang, Dan-Qi Chen, Qian Zhou, Bing Yang, Wei-Yi Li. Thermal oxidative degradation behaviors of flame-retardant copolyesters containing phosphorus linked pendent group/montmorillonite nanocomposites. *Polym. Degrad. Stab.* 2005, 87, 171-176. <https://doi.org/10.1016/j.polymdegradstab.2004.08.004>

4. Den-Qi Chen, Yu-Zhong Wang*, Xiao-Ping Hu, De-Yi Wang, Ming-Hai Qu, Bing Yang. Flame-Retardant and Anti-Dripping Effects of a Novel Char-Forming Flame Retardant for the Treatment of Poly(ethylene terephthalate) Fabrics. *Polym. Degrad. Stab.*, 2005, 88, 349-356. <https://doi.org/10.1016/j.polymdegradstab.2004.11.010>

3. Ming-Hai Qu, Yu-Zhong Wang*, Chuan Wang, Xin-Guo Ge, De-Yi Wang, Qian Zhou. A Novel Method for Preparing Poly(ethylene terephthalate)/BaSO₄ Nanocomposites. *Eur. Polym. J.*, 2005, 41, 2569-2374. <https://doi.org/10.1016/j.eurpolymj.2005.05.013>

2004

2. Xiu-Li Wang, Ke-Ke Yang, Yu-Zhong Wang*, De-Yi Wang, Zheng Yang. Crystallization and Morphology of a Novel Biodegradable Polymer System: Poly(1,4-dioxan-2-one)/Starch Blends. *Acta Mater.*, 2004, 52, 4899-4905. <https://doi.org/10.1016/j.actamat.2004.06.044>

2003

1. Hong Zhao, Yu-Zhong Wang*, De-Yi Wang, Bo Wu, Dan-Qi Chen, Xiu-Li Wang, Ke-Ke Yang. Degradation of Flame Retardant Copolyesters Containing Phosphorus Linked Pendent Groups. *Polym. Degrad. Stab.*, 2003, 80, 135-140. [https://doi.org/10.1016/S0141-3910\(02\)00394-4](https://doi.org/10.1016/S0141-3910(02)00394-4)

II) Book and Book Chapters

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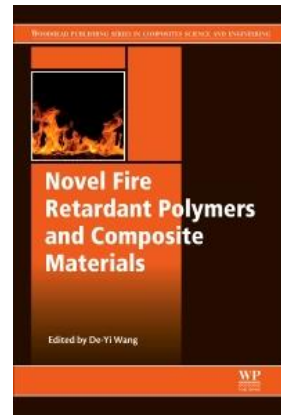
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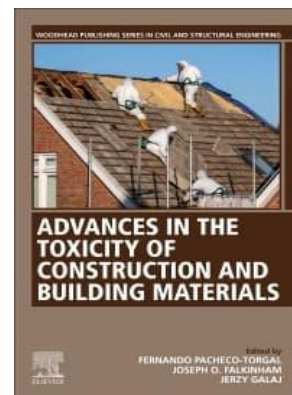
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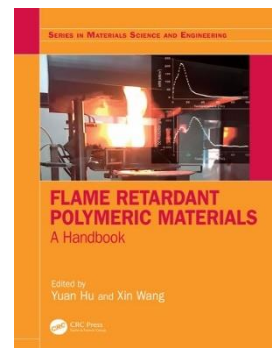
Chapter 10 Functionalized Layered Nanomaterials towards Flame Retardant Polymer Nanocomposites.

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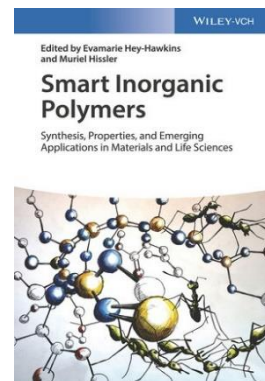
Chapter 8 Inorganic Polymers as Flame-Retardant Materials

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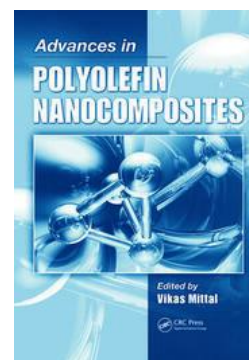
Chapter 8 Polyolefin Nanocomposites with Layered Double Hydroxides

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Chapter 3: Animal Product-derived Flame Retardants in Green Fire Retardants for Polymeric Materials.

Editor: Song Pingan, Zhang Yan, Wen Xin.

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III) Articles for Public

1. **De-Yi Wang.** [Fire turns clubs and houses into death traps: how to prevent it without replacing highly flammable materials?](https://theconversation.com/el-fuego-convierte-discootecas-y-casas-en-trampas-mortales-como-evitarlo-sin-reemplazar-materiales-muy-inflamables-216063) *THE CONVERSATION*, Published: 9 November 2023 22:40 CET

<https://theconversation.com/el-fuego-convierte-discootecas-y-casas-en-trampas-mortales-como-evitarlo-sin-reemplazar-materiales-muy-inflamables-216063>

2. **De-Yi Wang.** [The Valencia fire: another example of the danger of flammable materials in construction](https://theconversation.com/el-incendio-de-valencia-otro-ejemplo-del-peligro-de-los-materiales-inflamables-en-la-construccion-224300) *THE CONVERSATION*, Published: 23 February 2024 16:25 CET

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