

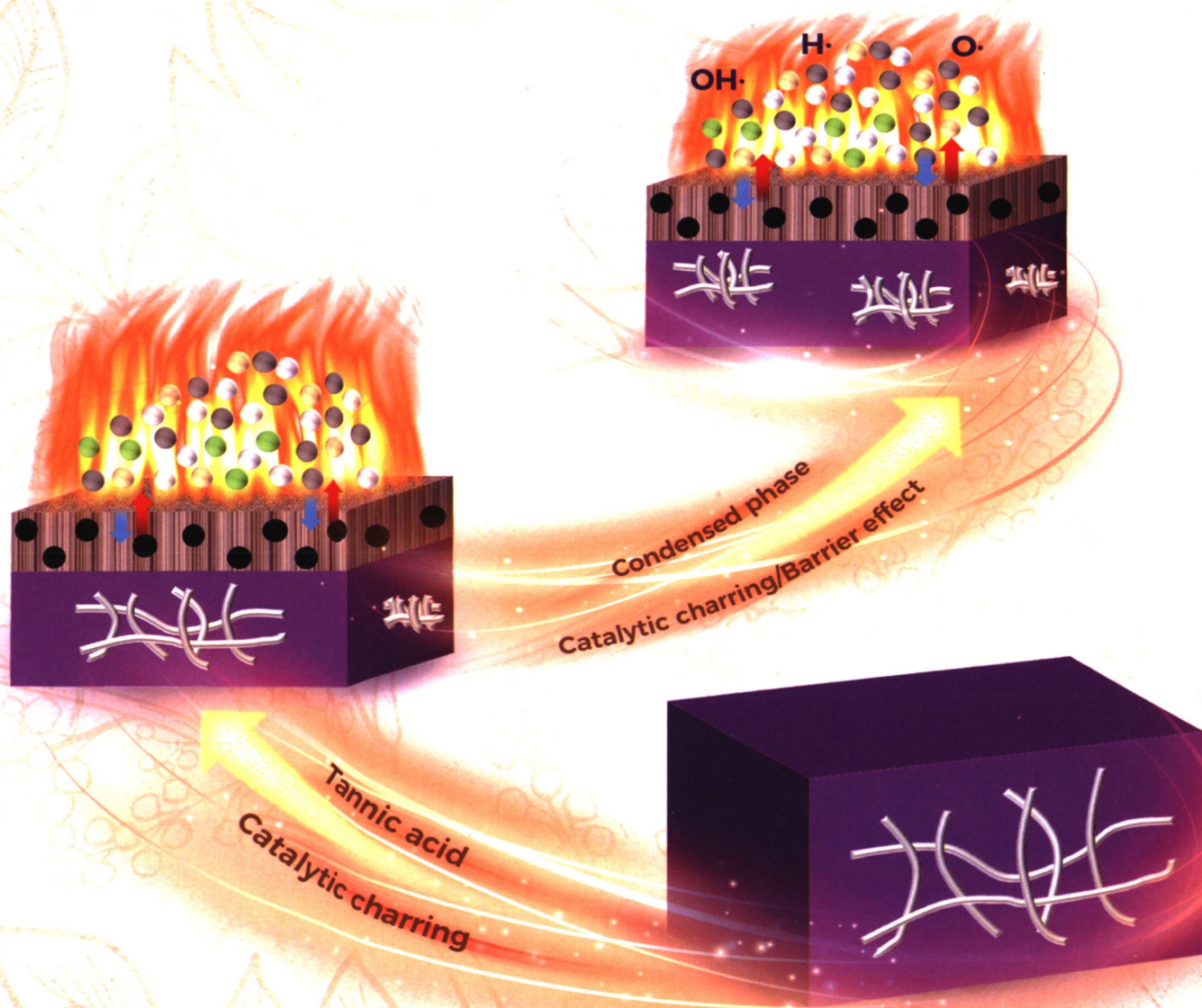
应用化学

2023

第40卷 第1期

Volume 40 Issue 1

CHINESE JOURNAL OF APPLIED CHEMISTRY



PVA



Tannic acid



Carbon layer

● C ● CO₂ ● O ● Smoke particles
● CO ● Aromatic compounds



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万方数据



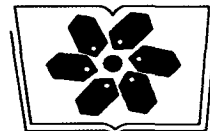
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为 1:50 时,二者混合物的峰值热释放速率减小 48% 及烟气产生率降低 44%。

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* 通讯联系人.

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Flame Retardancy Properties of Tannic Acid/Poly (Vinyl Alcohol)

LIN Yuan, CHEN Jia-Lian, LI Hong-Zhou*

Natural compound tannic acid (TA) can improve the flame retardancy of poly(vinyl alcohol) (PVA). Compared to the pure PVA, when the ratio of $n(\text{TA}) : n(\text{PVA})$ is 1 : 50, the peak heat release rate of TA-PVA decreases 48% and smoke production rate decreases 44%.

For details see pp 69-78

Review

Research Progress on the Decomposed Allelopathy of *Panax* Genus

WANG Rui, MENG Xiang-Ru, LI Qiong, WANG En-Peng, HUANG Xin*, CHEN Chang-Bao*

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Theoretical Research Progress of Single Atom Catalysts in Electrochemical Synthesis of Ammonia

CAO Rong, XIA Jie-Zhen, LIAO Man-Hua, ZHAO Lu-Chao, ZHAO Chen, WU Qi*

2023, 40(1):9-23

Research Progress of Macrocyclic Compounds in Highly Selective Molecular Imprinting Recognition System

GAO Jing-Xia, WANG Zi-An, ZHANG Lian-Ming*, LI Jian-Ping

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Research Progress of Assembly of Phospholipid Tube *in Vitro* and Its Potential Application in the Field of Biology and Chemistry

BI Hong-Mei*

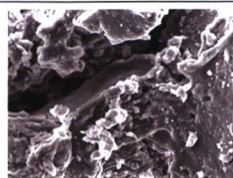
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Full Papers

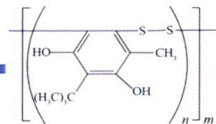
Preparation and Properties of Reclaimed Rubber Based on Passenger Car Tire Tread Powder

YAO Jing*, DAI Ming-Ming

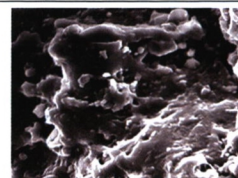
2023, 40(1):52-58



Waste tire rubber powder



Activator 420



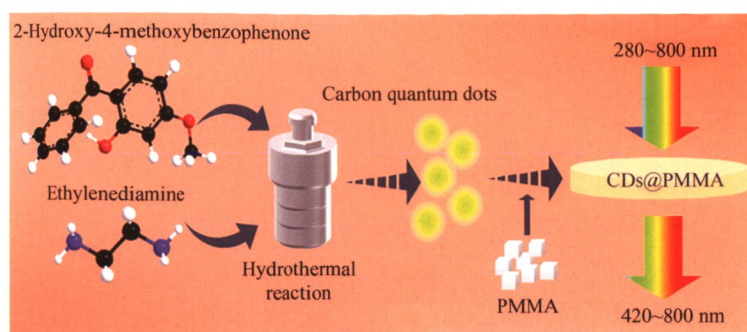
Recycled rubber

The reclaimed rubbers are made from waste tire rubber powder as raw materials and activator 420 by the combined force chemical regeneration method.

Hydrothermal Preparation and Application of Oil-soluble Carbon Dots with High Ultraviolet-short-wave Blue Light Shielding

WANG Rui-Zhe, HU Guang-Qi,
YE Wei-Hao, HU Chao-Fan,
ZHUANG Jian-Le, LEI Bing-Fu,
LI Wei, LIU Ying-Liang*

2023 ,40(1):59-68

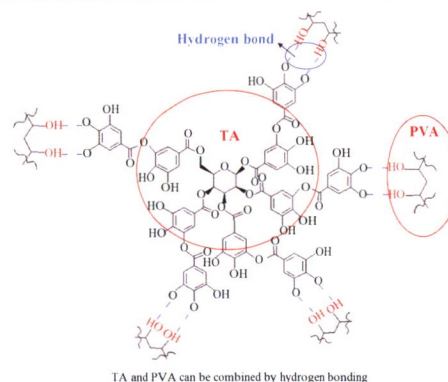


Hydrothermal synthesis of oil-soluble carbon dots and application in highly transparent UV- and blue-light blocking lenses.

Flame Retardant Properties of Tannic Acid/Poly(Vinyl Alcohol)

LIN Yuan, CHEN Jia-Lian,
LI Hong-Zhou*

2023 ,40(1):69-78

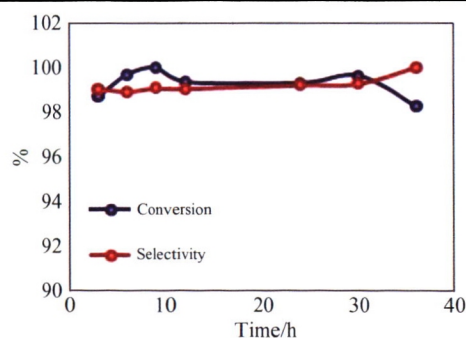


Natural compound tannic acid (TA) can improve the flame retardancy of poly(vinyl alcohol) (PVA). Compared to the pure PVA, when $n(\text{TA}) : n(\text{PVA})$ is 1:50, the peak heat release rate of TA-PVA decreases 48% and smoke production rate decreases 44%.

Preparation of Pseudo-boehamite from Industrial Materials and Its Application in Selective Hydrogenation of Isophorone

LIN Jin, WANG Fang-Zhu*,
LYU Ling-Ling*

2023 ,40(1):79-90

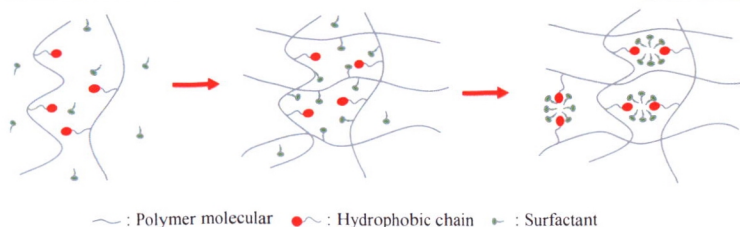


Waste FCC catalysts are used for preparation of Al_2O_3 with suitable pore structures, and the derived $\text{Pd}/\text{Al}_2\text{O}_3$ catalyst shows high activity, selectivity, and stability for selective hydrogenation of IP.

Synergistic Performance of Foaming Agent/Stabilizer/ SiO_2 Composite Foam Retarded Acid System

LIU Xiao-Hu, LAI Xiao-Juan*,
CAO Hong-Yan, WANG Ting-Ting,
DANG Zhi-Qiang

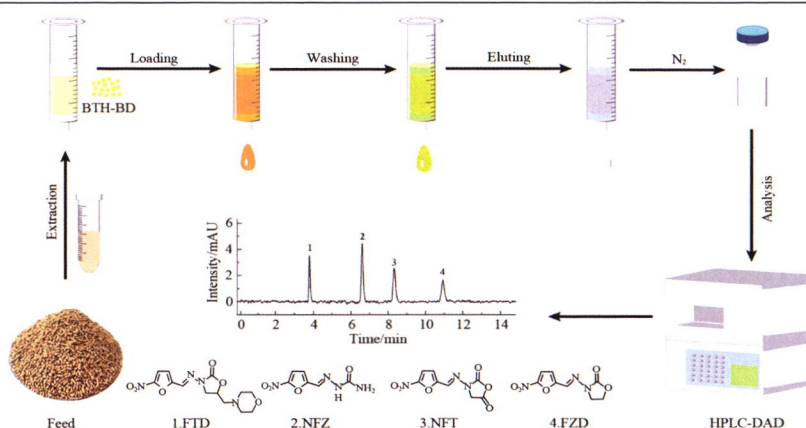
2023 ,40(1):91-99



Foam stabilizers and surfactants aggregate to form mixed micelles. It crosslinks hydrophobic groups in multiple polymers to improve the strength and stability of foams.

Preparation and Application of Acylhydrazone Bonded Polymer Gel in Nitrofuran Drugs Analysis

LI Yu-Huang, LU Ze-Yi,
YUAN Hong-Mei, WANG Gang,
ZHANG Cheng-Jiang*

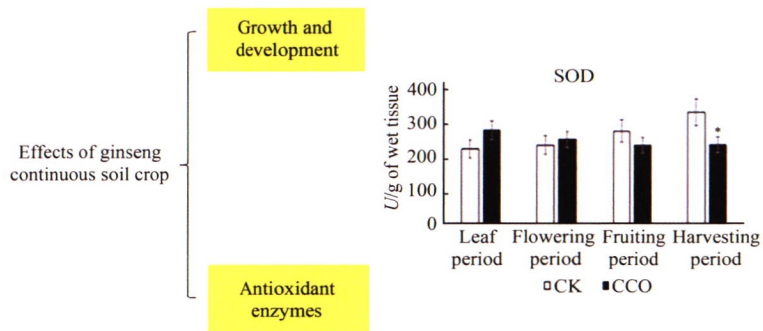


2023 ,40(1):100-108

Preparation and application of novel acylhydrazone bonded polymer gel in nitrofuran drugs analysis.

Effects of Ginseng Continuous Soil Crop on Growth Development and Antioxidant System of Ginseng at Different Fertility Stages

SHEN Yan-Long, CHENG Li-Ye,
MENG Xiang-Ru, LI Qiong,
DU Lian-Yun, WANG En-Peng*,
CHEN Chang-Bao*

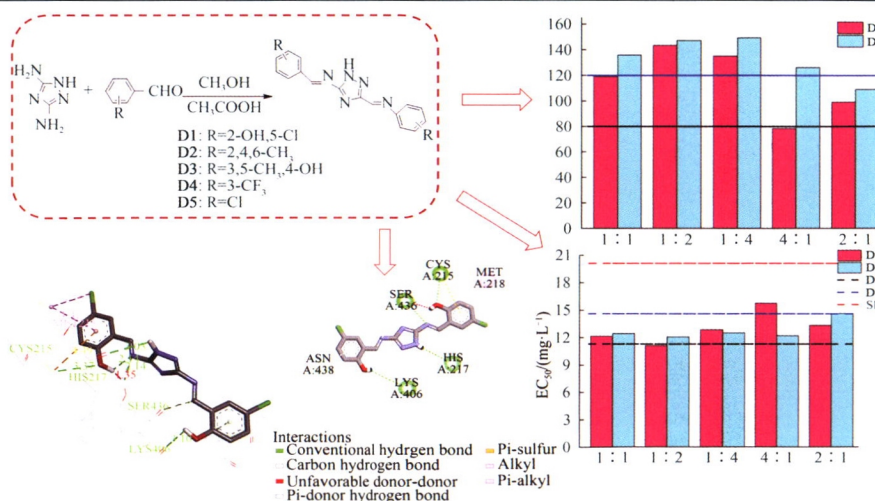


Continuous cropping inhibits the growth and development of ginseng and affects antioxidant enzyme activity, showing the importance of protecting the black land for ginseng growth.

2023 ,40(1):109-115

Synthesis, Antifungal Activity and Molecular Docking Study of 1, 2, 4-Triazole Bis-Schiff Base Derivatives

LI Mou-Cui,
DONG Yang-Ming,
REN Ying-Hui*,
MA Hai-Xia, QI Le

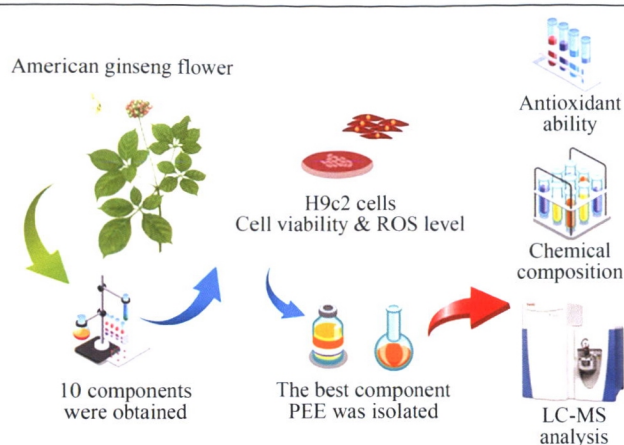


Among five compounds (D1–D5) synthesized from 3, 5-diamino-1, 2, 4-triazole and substituted benzaldehyde, D1 has potential activity against *Fusarium graminearum*, inhibit, the proliferation of fungi by inhibiting the formation of cell membrane, and the compound effect with fluconazole is better than that of the original commercial drug.

2023 ,40(1):116-125

Study on Extract Composition of
American Ginseng Flower in
Oxidative-Induced H9c2
Cardiomyocytes by LC-MS

ZHANG Jun-Jie, SHEN Yun-Jiao,
MA Li-Ying, WANG Peng-Hui,
WANG Lei, DAI Yu-Lin*,
ZHAO Lei*

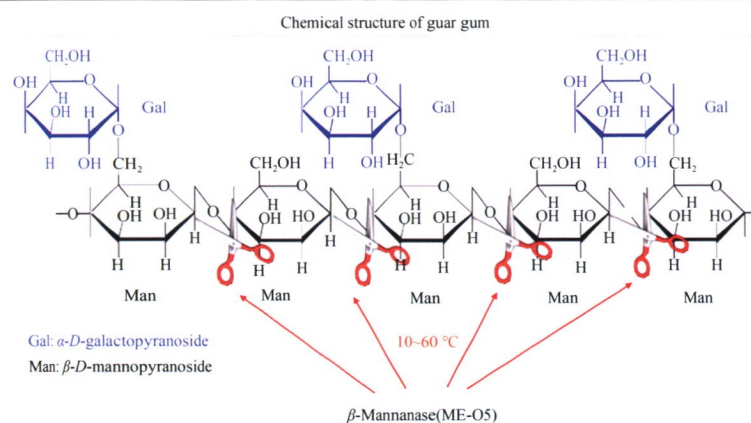


Establishment of chemical composition analysis method of non-traditional medicinal parts of American ginseng and preliminary exploration on its anti-myocardial injury effect.

2023 ,40(1):126-133

Enzymatic Properties and Gel
Breaking Performance of
Low-temperature β -Mannanase

XIONG Yu-Hua, ZHOU Lei,
YANG Shi-Zhong, MU Bo-Zhong*

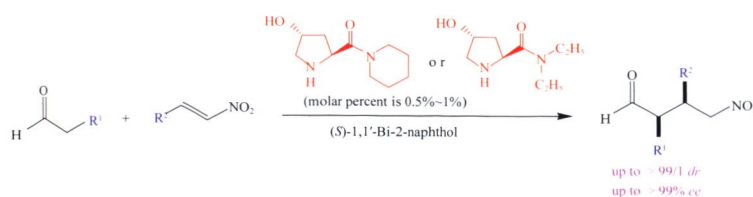


β -Mannanase (ME-O5) can efficiently and specifically degrade guar gum at low temperature.

2023 ,40(1):134-145

Structurally Simplified
4-Hydroxyprolinamide for
Highly Efficient Asymmetric
Michael Addition of
Aldehydes to Nitroolefins

CHENG Yan-Qin,
LI Zhuo-Xi,
WANG You-Di,
XU Juan-Juan*,
BIAN Zheng*



The structurally simplified 4-hydroxy-*L*-prolinamide derivatives are developed to efficiently catalyze the asymmetric Michael addition of aldehydes to nitroolefins with (*S*)-1,1'-bi-2-naphthol as the co-catalyst.

2023 ,40(1):146-154

(Executive Editor: SUN Zhi-Quan)

* To whom correspondence should be addressed

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