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## REVIEW

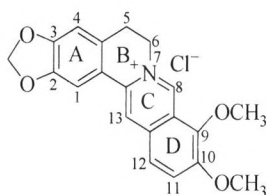
### Progress and Application of Synthetic Technology of NVP Monomer

Zhong Siqing\*, Chu Bozhao  
Chem. World, 2020, 61(2), 77-82

Poly(vinyl pyrrolidone) (PVP) is a kind of polymeric fine chemical obtained by free radical polymerization of *N*-vinylpyrrolidone (NVP) under proper conditions. Synthetic methods and technique routes for the synthesis of NVP monomer are introduced in detail. The applications of PVP in the fields of medicine and health, daily chemical industry, food and beverage, textile printing and dyeing, paint and pigments are summarized.

### Research Progress on Antifungal Activity of Berberine and Synthesis of Its Molecular Probes

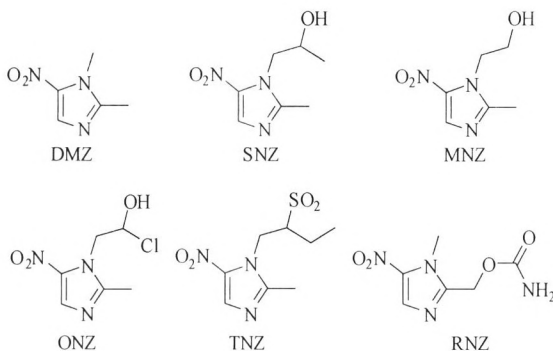
Han Yongping\*, Liu Hongmei, Li Keyi, Liu Jiarui, Ge Xizhen, Wang Tong  
Chem. World, 2020, 61(2), 83-91



In this article, antifungal activity, action mechanism and molecular probe of berberine are systematically reviewed so as to provide references for the development and related studies of berberine antifungal drugs.

### Progress on Nitroimidazole Drugs

Du Le, Yu Shijing, Yin Zhixin, Yang Lining\*  
Chem. World, 2020, 61(2), 92-98

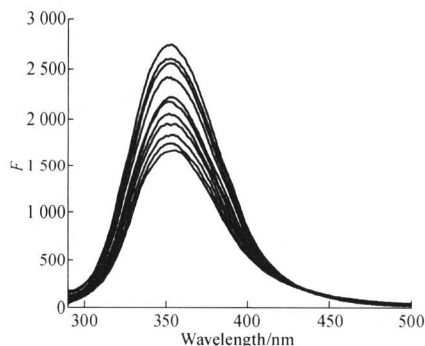


This paper briefly introduced a series of nitroimidazole compounds. The research progress and application of nitroimidazole derivatives in the fields of antibiosis, antituberculosis, antitumor, antiviral and antiprotozoa were summarized, and the future development trend of nitroimidazole derivatives was also prospected.

## ARTICLE

### Studies on the Interaction between Cyproheptadine Hydrochloride and Bovine Serum Albumin by Fluorescence Spectroscopy

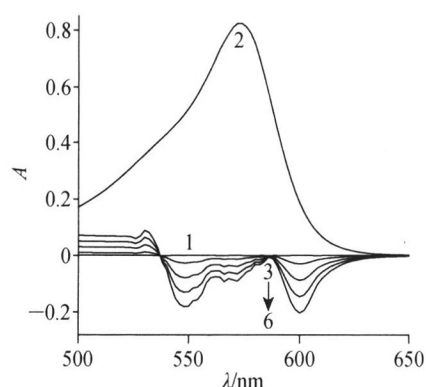
Xin Jianwei\*, Ma Hongyan, Luo Juanjuan  
Chem. World, 2020, 61(2), 99-104



The fluorescence intensity of bovine serum albumin (BSA) was obviously quenched by cyproheptadine hydrochloride (CH) under the physiological condition of pH=7.40.

Determination of Urapidil by Visible Absorption Spectroscopy with Chlorophenol Red as Probe

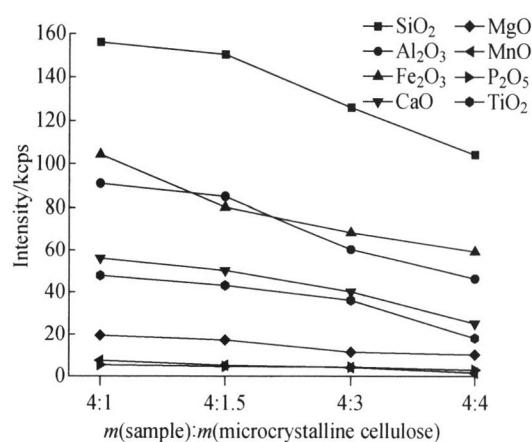
Wang Runlian, Jiang Hong\*, Wu Wenjie  
Chem. World, 2020, 61(2), 105-109



A new method to determine the content of urapidil in drugs by visible absorption spectroscopy was established.

Determination of Impurities Graphite Using Pressed Powder Pellet Based X-Ray Fluorescence Spectrometry

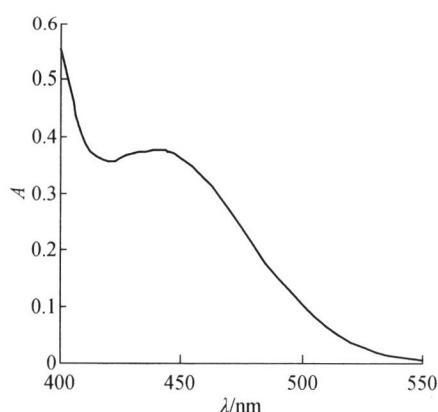
Yang Feng\*, Guo Jiase, Liu Weihong  
Chem. World, 2020, 61(2), 110-115



X-ray fluorescence (XRF) has been developed for the direct determination of impurities, namely  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{CaO}$ ,  $\text{MgO}$ ,  $\text{MnO}$ ,  $\text{P}_2\text{O}_5$  and  $\text{TiO}_2$ , in graphite without any need for chemical treatment.

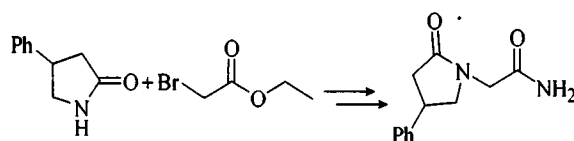
Discoloring Spectrophotometric Determination of Isoniazid by Potassium Bichromate

Tu Changqing, Wen Xinrong\*, Wang Jia  
Chem. World, 2020, 61(2), 116-120



A new discoloring spectrophotometric determination of isoniazid by potassium dichromate was established. The optimal conditions for the discoloring spectrophotometric determination of isoniazid by potassium bichromate were discussed. In the sulfuric acid medium, potassium bichromate can oxidize isoniazid, and its absorbance decreases with the increase of isoniazid concentration. The value of decreased absorbance is linearly related to the concentration of isoniazid so that the content of isoniazid can be indirectly determined by measuring the value of decreased absorbance.

Synthesis of 4-Phenyl-2-pyrrolidone-1-acetamide

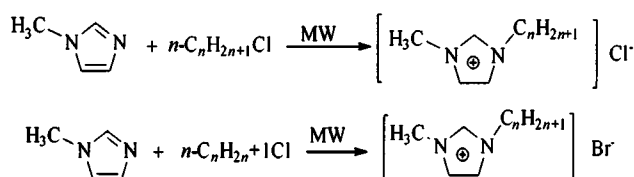


4-Phenyl-2-pyrrolidone-1-acetamide is a new type of nootropic drugs. An intermediate of 4-phenyl-2-pyrrolidone was synthesized from 4-amino-3-phenyl butyric acid hydrochloride by esterification and ammonolysis reactions with methanol and triethylamine, respectively. Alkylation of 4-phenyl-2-pyrrolidone (1) with ethyl bromide was carried out in the presence of sodium hydrogen so that 2-oxo-4-phenyl-1-pyrrolidineacetic acid ethyl ester (2) was produced. The target product (3) was obtained through the ammonolysis reaction using ammonia at room temperature.

Wang Jin, Gao Zhongliang\*

Chem. World, 2020, 61(2), 121-125

Study on the Effect of Anion Types on the Aggregation Behavior and Thermodynamics of Imidazolium-Based Ionic Liquids

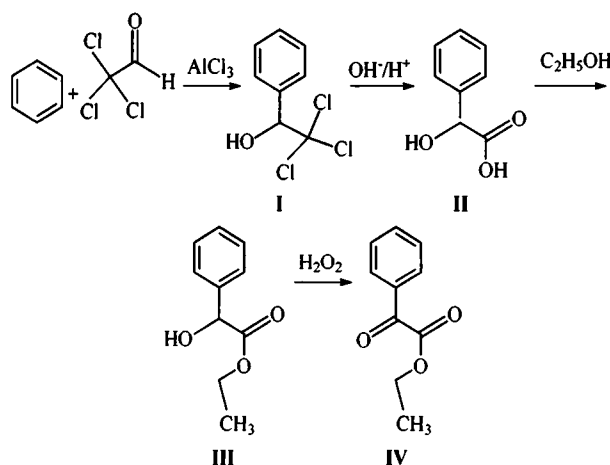


Sun Zhigang\*, Lang Ming, Dong Pengxu, Jiang Bin

Chem. World, 2020, 61(2), 126-131

A series of halogenated anionic alkyl imidazolium ionic liquids surfactant [C<sub>n</sub>mim]X (n=12, 14; X=Cl, Br) were synthesized.

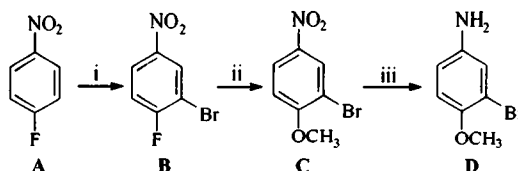
Study on Synthesis and Process Optimization of Ethyl Benzoate



Li Ke, Zhou Mi, Zhu Chen, Li Zhuye, Zhou Baohan, Chen Chi, Xu Baoming\*

Chem. World, 2020, 61(2), 132-137

Synthesis of 2-Bromo-4-aminoanisole

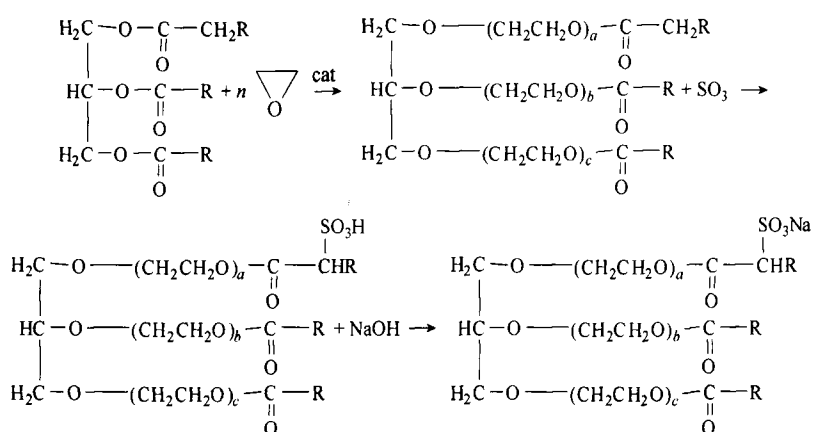


2-Bromo-4-aminoanisole was synthesized from 4-nitrofluorobenzene by bromination, nucleophilic substitution and nitro reduction in three steps. The effects of reactant dosage, reaction temperature and reaction time on the yields of sodium bromate bromination were investigated and the effects of three reduction methods on reduction yields were also examined.

Han Weiwei, Wu Longlong, Liang Jingtai, Fang Fang\*

Chem. World, 2020, 61(2), 138-141

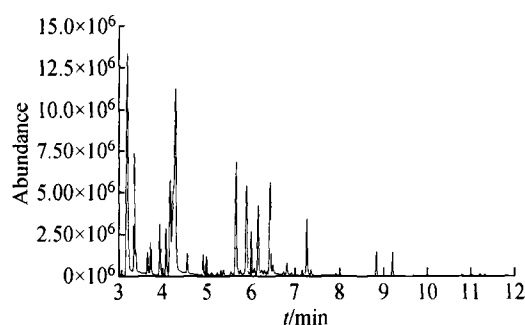
## APPLICATION

Synthesis and Performance of Sodium Oil  
Ethoxylate Sulfonate

Wu Junli\*, Yang Huiyuan  
Chem. World, 2020, 61(2), 142-146

Sodium modified oil ethoxylate sulfonate (SNS80) was prepared from natural oil through ethoxylation and sulfonation.

## Optimization of Extraction Process of Essential Oil from Rosemary by Response Surface Methodology



Liu Hongxia\*, Wu Lu, Dong Luyuan,  
Wang Dayuan, Tian Yunkuo, Li Tianai  
Chem. World, 2020, 61(2), 147-152

The process of extracting essential oil from rosemary by hydro-distillation was optimized by using the Box-Behnken response surface methodology. Ratio of  $m(\text{H}_2\text{O}) : m(\text{rosemary})$ , soak time and extraction time were selected as influencing factors, and the yield of rosemary essential oil was chosen as response value.

# 《化学世界》征稿简则

《化学世界》杂志创刊于1946年5月,是上海华谊(集团)公司主管、上海市化学化工学会主办的应用型化学化工综合性期刊。本刊设有研究论文(包括无机化学、有机化学、高分子、工业分析、化学工程和综合利用等)、综述与进展、新技术、研究专题、学术动态、应用与实践(含实验与教学)和亮点介绍等栏目;主要报道化学化工的科研成果,化工生产技术改造和经验,传播化学化工知识。

本刊国内外公开发行人。主要的读者为从事化学化工的科学技术工作者、大专院校师生和中学教师等。

本刊所刊论文被中国学术期刊文摘数据库(CSAD)、中国科学引文数据库(CSCD)、中国学术期刊综合评价数据库(CAJCED)、美国《化学文摘》(CA)千种表源期刊、中国学术期刊(光盘版)中国期刊网和《中国核心期刊(遴选)数据库》等收录。

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