Joint Event

21st International Conference and Exhibition on

Materials Science and Chemistry

33rd Annual European Pharma Congress

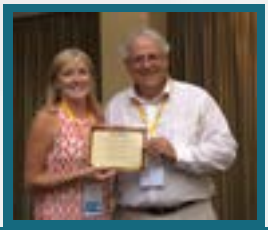
5th World Summit on

Renewable Energy

March 13-14, 2023

Frankfurt, Germany






Posters

Joint Event

21st International Conference and Exhibition on
Materials Science and Chemistry

33rd Annual European Pharma Congress

5th World Summit on
Renewable Energy

March 13-14, 2023

Frankfurt, Germany

Synthesis, characterization and evaluation of melamine foam decorated by rGO/ZnO nanoparticles as catalysts for photo degradation of methylene blue dye

Ruba AlShaikh Eid
Al-Azhar University, Egypt

Methylene Blue (MB) plays a significant part in the textile, paper, leather and dyeing sectors. However, it causes serious harm to the health of people, animals and plants, thus it is necessary to remove Methylene Blue (MB) dye from dye company wastewater in order to strike a balance between environmental pollution and industry output. The photo degradation process is among the most efficient ways to eliminate more than 90% of Methylene Blue (MB). The high surface area of nanomaterials, however, not only allows for strong dye adsorption on their surfaces, but also for photo catalysis for photo degradation, which adds further value to the removal of Methylene Blue (MB) dye from the wastewater produced by the dye industry. The lack of clean water is one of the problems the world is now facing, hence water purification is essential. In this study, melamine foam decorated by rGO/ZnO nanoparticles has been synthesized and characterized by Raman, SEM, TEM, XRD and UV [Figure 1]. XRD and Raman illustrate their synthesis of them. SEM and TEM images achieved the synthesis of rGO nanosheet, ZnO nanoparticles and melamine foam decorated by rGO/ZnO nanoparticles with homogenous distribution without any agglomeration, Photo degradation studies under different conditions of initial dye concentration, irradiation time, pH of the dye solution, catalyst dosage and radiation energy. Photo degradation studies illustrate an increased removal percent of Methylene Blue (MB) by increasing photo catalyst and PH toward alkaline and radiation energy. Melamine foam decorated by rGO/ZnO nanoparticles is the best photo catalyst for Methylene Blue (MB) degradation at pH 11 and a catalyst dosage of 0.0125 mg.

Figure 1. Illustrate the synthesis of melamine foam decorated by rGO/ZnO nanoparticles and its photo degradation for methylene blue (MB).

Biography

Ruba AlShaikh Eid is a PhD student in physics at Ain Shams University in Egypt. She holds a master's degree in physics in water purification using nanotechnology from Al-Azhar University in Gaza, Palestine. She can overcome challenges to accomplish her goals. She sought to fund this research to be able to complete it. Indeed, she obtained funding from UNDP Palestinians to complete her master's thesis.

Received: November 26, 2022; **Accepted**: November 29, 2022; **Published**: March 13, 2023

Joint Event

21st International Conference and Exhibition on
Materials Science and Chemistry

33rd Annual European Pharma Congress

5th World Summit on
Renewable Energy

March 13-14, 2023

Frankfurt, Germany

Analytical method development for sodium valproate through chemical derivatisation

Nihaya Wasif Odeh
Berzeit University, Palestine

Background: Sodium valproate has anticonvulsant activity and is structurally different to conventional antiepileptic drugs. The problem with valproic acid is the lack of a chromophore, which means that gas chromatography is the sole assay methodology. The introduction of benzoyl and phenyl groups to the molecule is a useful derivatisation, which enables the creation of detectable chromophores for HPLC analysis for pharmaceutical dosages as well as biological systems.

Methodology: Sodium valproate was derivatised by the addition of a chromophore to its structure by introducing a methyl benzoyl or a phenyl group. Trichlorophenol and 2-hydroxyacetophenone were used to introduce phenyl and benzoyl groups to valproic acid, respectively. The reaction used was estrification reaction using coupling agents. An analytical method was then developed and validated using reverse-phase HPLC. The method was validated for parameters like linearity, range, accuracy precision and robustness.

Results: The developed method was easy and feasible and can be applied to both routine analysis and bio analysis. The method was very sensitive and could quantify valproic acid at a very low concentration of 0.75×10−5 mg/ml. The developed method was found to be linear (R2=0.997), accurate, precise and robust.

Conclusion: The proposed chemical derivatisation and the developed analytical method are novel. The developed analytical procedure is the first of its kind; it is easy and feasible and can be used to quantify and detect sodium valproate at very low concentrations compared to other available methods in the literature.

Biography

Nihaya Wasif Odeh, a master's student at Birzeit University in Pharmaceutical Technology, she is very interested in the topics covered in this program, specializing in health care services, holds a Bachelor's degree in Pharmacy with a very good grade from An-Najah National University. Having worked in drug sales and community pharmacies for four years, she is interested in research on drug analytics and how manufacturing factors affect drugs. Her long-term goal is to get PhD to share her experience with other professional colleges and learn more from them so that she can use her knowledge to make better drugs. She is interested to participate in the conference in order to be able to share her article with discuss it for more developments, she is very pleased to improve and expand her knowledge and skills and hopefully, this conference engaging her in insightful discussions with others about the latest happenings in the field.

Received: February 7, 2023; **Accepted**: February 10, 2023; **Published**: March 13, 2023

Joint Event

21st International Conference and Exhibition on
Materials Science and Chemistry

33rd Annual European Pharma Congress

5th World Summit on
Renewable Energy

March 13-14, 2023

Frankfurt, Germany

Analysis of concentrating collector's geometry with a motorless tracking mechanism

Tangellapalli Srinivas
Dr B R Ambedkar National Institute of Technology Jalandhar, India

The operation of solar tracking needs a considerable amount of electricity and reduces the energy conversion efficiency. In this work, a motorless tracking mechanism for a linear concentrator has been modelled and analysed for the minimum tracking loads. A hydraulically damped suspension spring has been used for the smooth rotation of the collector without causing vibrations. The analysis is focused on the geometry of the collector and the mechanics of tracking. The analysis results in a lower tracking load as a function of sprocket wheel size, spring strength and maximum deflection of the spring, which is independent of the collector weight. A high geometric factor increases the stability of the collector and provides smooth and simple tracking with minimal tracking load. The geometric factor should be greater than 0.53 for the wide collector with stable rotation. The maximum incidence angle with N-S axis motorless tracking is 30° during the winter solstice. An increase in sprocket wheel size and geometric factors results in favourable conditions.

Keywords: Solar concentrating collector, Tracking, Error, Motorless.

Biography

Tangellapalli Srinivas is from Department of Mechanical Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar (Punjab), India.

Received: February 23, 2023; **Accepted**: February 27, 2023; **Published**: March 13, 2023