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داليا انور 2016-2017

Design, synthesis and stability of mutual prodrugs of NSAIDs

Non-steroidal anti-inflammatory drugs (NSAIDs), commonly used for the treatment of chronic inflammatory diseases .Mostly the NSAID moieties are chemically composed of carboxylic functional groups and the free carboxylic acid group is crucial in maintaining the effectiveness and is also responsible for gastric side effects.

Long term use of available acidic NSAIDs is reduced due to ulcerogenicity, abdominal cramps, intestinal bleeding, mucosal haemorrhage and gastritis.

Prodrug design is effective for NSAIDS as it mask the carboxylic acid group and thus reducing the gastrointestinal tract side effects.

A mutual prodrug normally comprises of two biologically active agents coupled together so that each acts as a pro-moiety for the other agent so the mutual prodrug is a strategy in which we don’t overcome the the draw back only but we also add additional benefit of other drug so in this project we study the Design, synthesis and stability of mutual prodrug of NSAIDs to overcome the gastric side effects of some drugs of NSAIDs and increase anti-inflammatory activity.

هديل شهاب 2016-2017

Green Synthesis of Schiff Bases by Using Natural Acids

The synthesis of Schiff base is carried out with or without acid catalyst and sometimes by refluxing the mixture of aldehyde (or ketone) and amine in organic medium. research work has also used green methodologies for synthesis of Schiff bases. Present synthesis involves the use of fruit juice of Citrus limetta, Vitis lanata and aqueous extract of Mangifera indica as natural acid catalysts. The utilization of green chemistry techniques are dramatically reduces chemical wastes and reaction time as recently have been proven in several organic syntheses and chemical transformations. To illustrate these advantages in the synthesis of organic heterocycles, various environmentally benign protocols that involve greener alternatives have been studied. The objective of present The synthesized product was identified by its physical properties, melting point and TLC. Compared with traditional methods, these methods were more convenient and provided higher yield, shows maximum efficiency, held without generation of pollution in shorter reaction time, safer to analyst, low cost and simple to run.

زينة مالك 2017-2018

antimicrobial activity of sulfonamide

Sulfonamides are the first successfully synthesized antimicrobial drugs. The mechanism of sulfonamides antimicrobial action involves competitive inhibition of folic acid synthesis which prevents the growth and reproduction of microorganisms.

 Due to this mechanism of action, sulfonamides belong to the group of bacteriostatic agents.

Although they have been applied in therapy for more than 70 years, sulfonamides are still the drugs of choice for the treatment of several conditions and diseases.

A wider sulfonamides application in the therapy is limited by bacterial resistance and sulfonamides side effects.

Antimicrobial sulfonamides and their metabolites are classified as persistent organic pollutants.

 For sulfonamides degradation and removal from the environment, various techniques can be applied such as different oxidation techniques, including chlorination and advanced oxidation processes, adsorption processes, membrane processes and combined processes.

اية فراس 2017-2018

Synthesis of new anticancer drugs

Cancer is a type of [disease](https://simple.wikipedia.org/wiki/Disease) where [cells](https://simple.wikipedia.org/wiki/Cells) grow out of control, divide and invade other [tissues](https://simple.wikipedia.org/wiki/Tissues). In a person without cancer, [cell division](https://simple.wikipedia.org/wiki/Cell_division) is under control. In most [tissues](https://simple.wikipedia.org/wiki/Tissues), healthy cells divide in a controlled way and copy themselves to create new healthy cells. With cancer, this normal process of cell division goes out of control. Cells change their nature because [mutations](https://simple.wikipedia.org/wiki/Mutations) have occurred in their [genes](https://simple.wikipedia.org/wiki/Genes). All the daughter cells of cancer cells are also cancerous.

Anticancer uses chemical substances that act electively on cells in mitosis, and antimitotic agents finally aim to destroy cancer cells. These substances have the great advantage that they do not act strictly locally on the primary neoplasm, and antimitotic agents perform a therapy of the potential or disseminated systemic disease. Chemotherapy is the most effective therapeutic approach, it relieves painful symptoms, prolongs life and/or even heals the disease. Thus, anticancer can cure a clearly diagnosed metastatic disease but, at the same time, a strategy can also be established for the control of occult metastases.

Chemotherapy has been used since the antiquity, or maybe even earlier, to fight tumors.

A new derivatives of anticancer drugs and evaluated for their anticancer activity. They show more potent activity than the parent anticancer group. And they even have less side effect on the patient , and they produce better cell growth inhibition when compered with the standard drug.

نور رائد 2018-2019

Subsituted chalcone dervitive as potential inflammtery and antimicrobial activity

 Chalcone are precursor compounds for flavonoids biosynthesis in plants ,and they can also be synthesized in laboratory. Chalcone possess abroad spectrum of biological activities including antioxidative,antibacterial,antihelmintic,amoebicidal,antiulcer,antiviral,cytotoxic,immunsuppressive.Changes in their structure have offered a high degree of diversity that has proven useful for the development of new medicinal agents having improving potency and lasser toxicity and a good pharmacological a ctions . Chalcone became an object of continued interest in both academia and industry .Now days,several chalcone are used for treatment of viral disorders ,cardiovascular diseases ,gastritis,and stomach cancer , food as well as like additivies and cosmetic formulation ingredients. Aseries of novel chalcone and thiol-michael addition analogues was synthesized and tested against Mycobacterium tuberculosis and other bacterial pathogens. Chalcone is avaluable molecule of medicinal importanace due precence of reactive ketoethylenic group –CO-CH=CH-, belonging to the flavonoid famailly .Theses reactiveα,β unsaturated keto fuction in chalcone is responcible for their biological activity .

سمر عدي 2018-2019

Immune analogues of tyrosine kinase inhibitors

Tyrosine phosphorylation is one of the key covalent modifications that occur in multicellular organisms, the enzymes that carry out this modification are the tyrosine kinases (PTKs) which catalyze the transfer of the phosphate of ATP to tyrosine residues on protein substrates.

The oncogenic signaling pathways have emerged as key targets for the development of Tyrosine Kinase Inhibitors which are effective in the targeted treatment of various malignancies. Imatinib was the first to be introduced into clinical oncology, and it was followed by drugs such as gefitinib, sorafenib, sunitinib, and dasatinib. Although they share the same mechanism of action, they differ from each other in the spectrum of targeted kinases, their pharmacokinetics as well as substance-specific adverse effects. With variations from drug to drug, tyrosine kinase inhibitors cause skin toxicity, including folliculitis, in more than 50% of patients.

A number of recent studies have indicated that antiangiogenic tyrosine kinase inhibitors (TKIs) target multiple components of the tumor microenvironment and are an ideal class of agents for synergizing with cancer immunotherapy.