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# Trysts with Anti-Cancer Drug Designing – Design Synthesis and Evaluation Some Chromone and β-Ionone Based Anticancer Molecules

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The systematic discovery of new drugs, also called "Drug Designing", involves envisioning, preparation and systematic evaluation of specific new molecules leading to more efficient drug discovery. A modern drug designing research is a frontier area which requires inputs from diverse disciplines such as Natural product chemistry, Synthetic chemistry, Computational chemistry, Spectroscopic techniques- in particular NMR and X-ray crystallography, Biochemistry, Physiology, Genomic technologies, Bioinformatics, Molecular biology, Microbiology, Pharmacology, etc. A number of approaches are being adopted for discovery of new "lead" structures. Despite tremendous advancements made in synthetic methodologies, natural products continue to be the most consistent source of new exotic molecular frameworks fore drug discovery.Despite tremendous advancements in identification of new targets for chemotherapeutic intervention in fight against cancer and combination regimens of available anti-cancer drugs, problem of adverse effects and developing resistance of cancer cells to drugs have made many chemotherapeutic regimens ineffective. Therefore, the search for novel targets for anticancer drugs and more effective chemotherapeutic agents for the treatment of cancer is highly desired. The presentation enlists modern targets for anticancer drug designing program and includes examples form our own work on design, synthesis and systematic evaluation of some chromone and β-ionone based cytotoxic agents obtained through environmentally benign synthetic protocols.

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