Title:	Organocatalyzed umpolung addition for synthesis of heterocyclic-fused arylidene-imidazolones as anticancer agents
Authors:	Joshi, Mayank (/jspui/browse?type=author&value=Joshi%2C+Mayank) Choudhury, Angshuman Roy (/jspui/browse?type=author&value=Choudhury%2C+Angshuman+Roy)
Keywords:	Organocatalyzed umpolung synthesis of heterocyclic-fused arylidene-imidazolones as anticancer agents
Issue Date:	2022
Publisher:	Elsevier
Citation:	Bioorganic and Medicinal Chemistry, 67(1), 116835.
Abstract:	A strategy of “Nature-to-new” with iterative scaffold-hopping was considered for investigation of privileged ring/functional motif-elaborated analogs of natural aurones. An organocatalyzed umpolung chemistry based method was established for molecular-diversity feasible synthesis of title class of chemotypes i.e. (Z)-2-Arylideneimidazo[1,2–a]pyridinones and (Z)-2-Arylidenebenzo[d]imidazo[2,1–b]thiazol-3-ones. Various biophysical experiments indicated their important biological properties. The analogs showed characteristic anticancer activities with efficiency more than an anticancer drug. The compounds induced apoptosis with arrest in the S phase of the cell cycle regulation. The compounds’ significant effect in up/down-regulation of various apoptotic proteins, an apoptosis cascade, and the inhibition of topoisomerases-mediated DNA relaxation process was identified. The analysis of the structure-activity relationship, interference with biological events and the drug-likeness physicochemical properties of the compounds in the acceptable window indicated distinctive medicinal molecule-to-properties of the investigated chemotypes.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1016/j.bmc.2022.116835 (https://doi.org/10.1016/j.bmc.2022.116835) http://hdl.handle.net/123456789/4992 (http://hdl.handle.net/123456789/4992)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need To Add…Full Text_PDF. (/jspui/bitstream/123456789/4992/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF.)		15.36 kB	Unknown	View/Open (/jspui/l

Show full item record (/jspui/handle/123456789/4992?mode=full)
(/jspui/handle/123456789/4992/statistics)