Publications Template

#	Research Title	Field	Abstract	Year of Publication Publishing	Publishing Link "URL"
1	**Metawlly, D. E., Amer, A. N., Mostafa, H. M., Elsawaf, G. E. D., & El Kader, O. A. (2017). Low cost detection of hepatitis C virus RNA in HCV infected patients by SYBR Green I real-time PCR. Alexandria Journal of Medicine.**	Microbiology	he prevalence of hepatitis C virus (HCV) is highest in Egypt compared to other countries. Nucleic acid amplification test (NAT) allows detection of HCV early during the course of infection. Unfortunately, NAT is more expensive than ELISA, thus its routine use as a screening tool for blood products or in clinical practice is quite limited. The aim of this study was to compare two common RT-PCR methods, TaqMan probe technique and SYBR Green method in quantitative detection of HCV RNA for diagnosis and follow up of HCV patients. Among the	2017	**https://www.ajol.info/index.php/bafm/article/view/182235**

			recruited 220 HCV patients, 154 (70%) were HCV-RNA positive by both the techniques, while 24 (10.9%) were negative by both techniques. On the other hand, 40 (18.2%) cases were HCV RNA positive only by SYBR Green technique, and 2 (0.9%) only by TaqMan probe technique. Forty (20.4%) of the 196 chronic HCV cases were HCV-RNA positive by SYBR Green but negative by TaqMan probe technique.		
2	Ayoup MS, Wahby Y, Abdel-Hamid H, Teleb M, Abu-Serie MM, Noby A. Design, synthesis and biological evaluation of novel α-acyloxycarboxamides via Passerini reaction as caspase 3/7 activators. European journal of medicinal	Pharmaceutical chemistry	Evasion of apoptosis is a hallmark of cancer. Caspases; the key executors of apoptotic cascade are attractive targets for selective induction of apoptosis in cancer cells. Within this approach, various caspase activators were introduced as lead	2019	https://www.sciencedirect.com/science/article/pii/S0223523419301655

	chemistry. 2019 Apr 15;168:340-56.		anticancer agents. In the current study, a new series of multifunctional Passerini products was synthesized and evaluated as potent caspase-dependent apoptotic inducers. The synthetic strategy adopted this isocyanide-based multicomponent reaction to possibly mimic the pharmacophoric features of various lead apoptotic inducers, where a series of α-acyloxycarboxamides was prepared from *p*-nitrophenylisonitrile, cyclohexanone and various carboxylic acids. Accordingly, the main amide-based scaffold was decorated by substituents with varying nature and size to gain more		

			information about structure-activity relationship. All the synthesized compounds were screened for cytotoxicity against normal human fibroblasts and their potential anticancer activities against three human cancer cell lines; MCF-7 (breast), NFS-60 (myeloid leukemia), and HepG-2 (liver) utilizing MTT assay. Among the most active compounds, **13, 21** and **22** were more potent and safer than doxorubicin with nanomolar IC_{50} values and promising selectivity indices. Mechanistically, **13, 21** and **22** induced apoptosis by significant caspase activation in all the screened cancer cell lines utilizing flow		

			cytometric analysis and caspase 3/7 activation assay. Again, **13** and **21** recorded higher activation percentages than doxorubicin, while **22** showed comparable results. Apoptosis-inducing factor1 (AIF1) quantification assay declared that **13**, **21** and **22** didn't mediate apoptosis through AIF1-dependent pathway (i.e. only by caspase activation). Physicochemical properties, pharmacokinetic profiles, ligand efficiency metrics and drug-likeness data of all the synthesized compounds were computationally predicted and showed that **13, 21** and **22** could be considered as drug-like candidates. Finally,		

			selected compounds were preliminarily screened for possible antimicrobial activities searching for dual anticancer/antimicrobial agents as an advantageous approach for cancer therapy.		
3	Ayoup MS, Fouad MA, Abdel-Hamid H, Abu-Serie MM, Noby A, Teleb M. Battle tactics against MMP-9; discovery of novel non-hydroxamate MMP-9 inhibitors endowed with PI3K/AKT signaling attenuation and caspase 3/7 activation via Ugibis-amide synthesis. European journal of medicinal chemistry. 2019 Nov 10:111875.	Pharmaceutical chemistry	Matrix metalloproteinases (MMPs) are major modulators of the tumor microenvironment. They participate in extracellular matrix turnover, tumor growth, angiogenesis and metastasis. Accordingly, MMPs inhibition seems to be ideal solution to control cancer. Many MMPs inhibitors have been introduced ranging from hydroxamate-based peptidomimetics to the next generation non-	2019	https://www.sciencedirect.com/science/article/pii/S022352341931027X

			hydroxamate inhibitors. Among MMPs, MMP-9 is attractive druggable anticancer target. Studies showed that inhibiting AKT, the central signaling node of MMP-9 upregulation, provides additional MMP-9 blockade. Furthermore, caspase-dependent AKT cleavage leads to cell death. Herein, Ugi MCR was utilized as a rapid combinatorial approach to generate various decorated bis-amide scaffolds as dual MMP-9/AKT inhibitors endowed with caspase 3/7 activation potential. The target adducts were designed to mimic the thematic structural features of non-hydroxamate MMP inhibitors. *p*-Nitrophenylisonitrile**1** was utilized as structure entry to Ugi products		

			with some structural similarities to amide-based caspase 3/7 activators. Besides, various acids, amines and aldehydes were employed as Ugi educts to enrich the SAR data. All adducts were screened for cytotoxicity against normal fibroblasts and three cancer cell lines; MCF-7, NFS-60 and HepG-2 utilizing MTT assay. **8**, **11** and **28** were more active and safer than doxorubicin with single-digit nM IC_{50} and promising selectivity. Mechanistically, they exhibited dual MMP-9/AKT inhibition at single-digit nM IC_{50} with excellent selectivity over MMP-1,-2 and -13, and induced >51% caspase 3/7 activation. Consequently, they induced >49% apoptosis as detected by flow		

			cytometric analysis, and inhibited cell migration (metastasis) up to 97% in cancer cells. Docking simulations were nearly consistent with enzymatic evaluation, also declared possible binding modes and essential structure features of active compounds. *In silico* physicochemical properties, ligand efficiency and drug-likeness metrics were reasonable for all adducts. Interestingly, **8** and **28** can be considered as drug-like candidates.		