

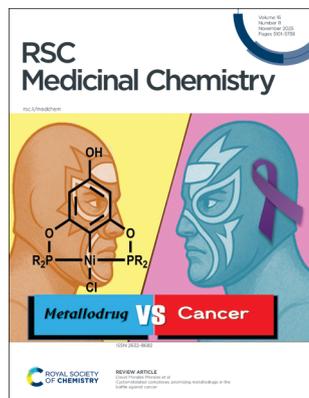
# RSC Medicinal Chemistry

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## IN THIS ISSUE

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### Cover

See David Morales-Morales et al., pp. 5125–5195.  
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### Inside cover

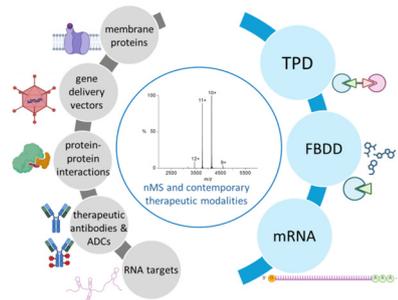
See Oleg Mediannikov and Philipp O. Tsvetkov, pp. 5359–5363.  
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Image based on the original artwork “Eclipse” (gouache on paper, 2005) by Oleg V. Tsvetkov

## OPINION

5114

### Toward routine utilisation of native mass spectrometry as an enabler of contemporary drug development

Louise M. Sternicki and Sally-Ann Poulsen\*

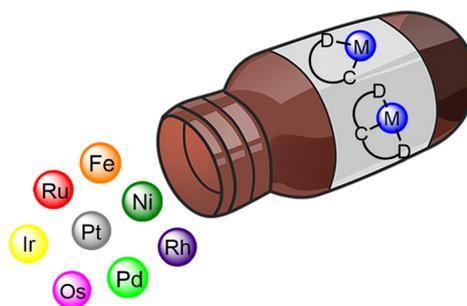


## REVIEWS

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### Cyclometalated complexes: promising metallodrugs in the battle against cancer

Andrés Amaya-Flórez, Jordi R.-Galindo, Elkin Sanchez-Yocue, Adrian Ruiz-Martinez, Juan S. Serrano-García, Adriana Romo-Pérez, Patricia Cano-Sanchez, Viviana Reyes-Marquez, Ronan Le Lagadec and David Morales-Morales\*





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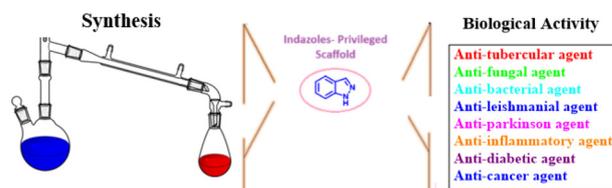
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## Indazole – an emerging privileged scaffold: synthesis and its biological significance

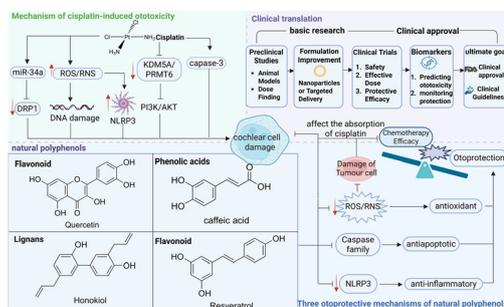
Anuradha Singampalli, Pardeep Kumar, Rani Bandela, Sri Mounika Bellapukonda, Srinivas Nanduri and Venkata Madhavi Yaddanapudi\*



5222

## Polyphenolic compounds as protective agents against cisplatin-induced ototoxicity with molecular mechanisms and clinical potential

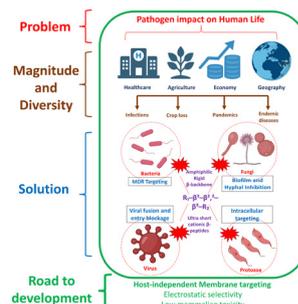
Tong Wei, Jing Nie, Dongbo Wang, Huina Wu, Lijiao Guan and Jiyong Wu\*



5235

## The rise of ultrashort cationic $\beta$ -peptides as promising antimicrobial therapeutics

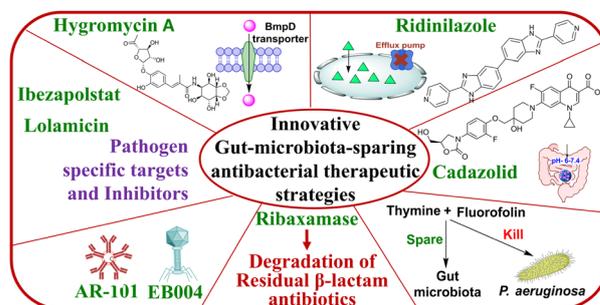
Hadiya Amin Kantroo, Itibaw Farooq and Zahoor Ahmad\*



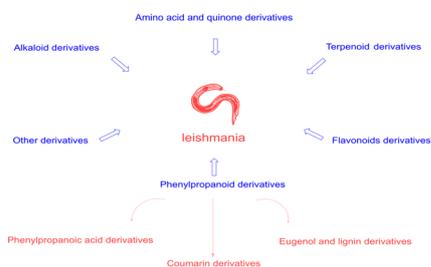
5255

## How to spare gut microbiota from antibiotic effects? PK-PD based innovative strategies, target specificity, and molecule-to-medicinal properties

Abhishek Rai, Vaishnavi Newaskar, Nibedita Roy and Sankar K. Guchhait\*

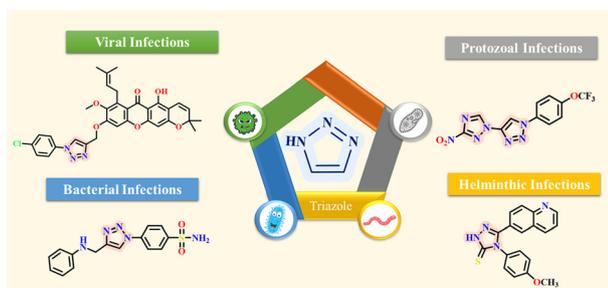


## Natural product structural modifications for anti-leishmaniasis.



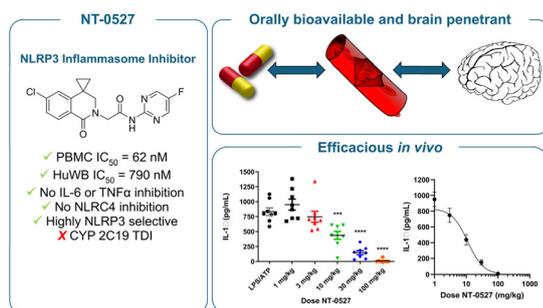
## Recent advances in structural modifications of natural products for anti-leishmaniasis therapy (2010–2024)

Fu-Qun Sun, Yin-Sheng Qian, Qing-Kun Shen, Hong-Yan Guo, Xiu-Mei Yin\* and Zhe-Shan Qian\*

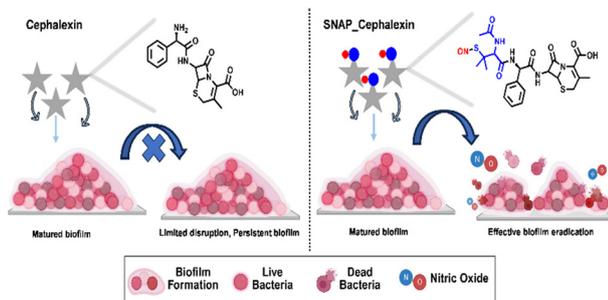


## Recent advances in triazole hybrid molecules for the therapeutic management of neglected tropical diseases

Jatin Malik, Gauri Karande, Sankaranarayanan Murugesan\* and Kondapalli Venkata Gowri Chandra Sekhar\*

Profile of NT-0527, a brain penetrant NLRP3 Inflammasome inhibitor suitable as an *in vivo* tool compound for neuroinflammatory disorders

David Harrison,\* Andy Billinton, Mark G. Bock, Nicholas P. Clarke, Zsafia Digby, Christopher A. Gabel, Nicola Lindsay, Valérie Reader, Jane Scanlon, Pamela Smolak, Peter Thornton, Heather Wescott and Alan P. Watt



## Development of a nitric oxide-releasing cephalixin-based hybrid compound for enhanced antimicrobial efficacy and biofilm disruption

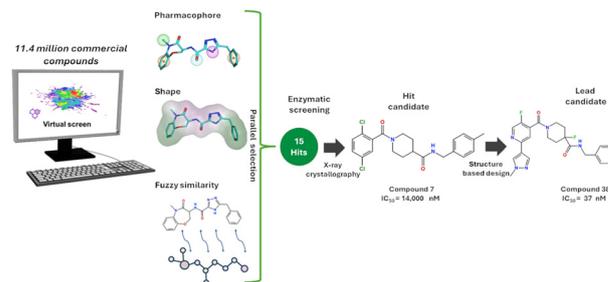
Sumit Kumar, Myddelton C. Parker, Yi Wu, Anastasia Marx, Hitesh Handa and Elizabeth J. Brisbois\*



5341

### Allosteric targeting of RIPK1: discovery of novel inhibitors via parallel virtual screening and structure-guided optimization

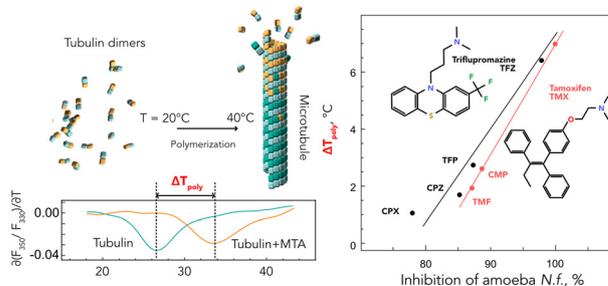
R. S. K. Vijayan, M. M. Hamilton, D. E. Pfaffinger, F. G. Alvarez, N. J. Reyna, J. P. Bardenhagen, H. Shepard, C. Rodriguez, S. Goodwani, Y. Lightfoot, K. Maskos, S. Johannsson, G. Kempf, Q. A. Xu, L. Neumann, Y. Jiang, M. G. Do, P. Jones, R. T. Lewis, W. J. Ray and J. B. Cross\*



5359

### Analysis of two screens reveals a correlation between antiamoebic and anti-tubulin activities of phenothiazine and triphenylethylene derivatives

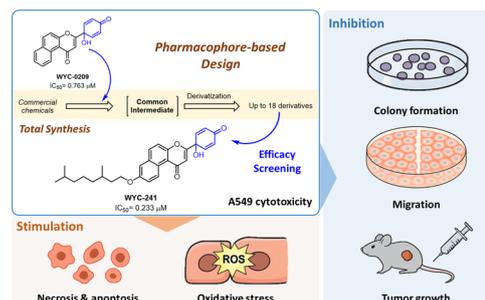
Oleg Mediannikov and Philipp O. Tsvetkov\*



5364

### Synthesis and anti-cancer biological evaluation of a novel protoapigenone analogue, WYC-241

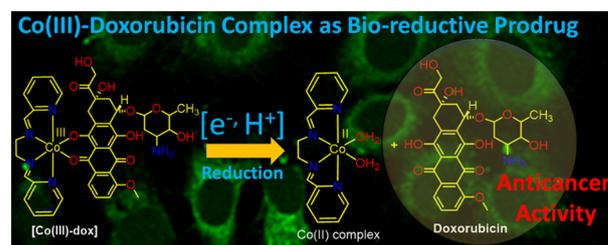
Pei-Yi Chu, Yi-Cheng Pan, Wei-Yu Hsu, Da-Wei Chuang, Juan-Cheng Yang, Guan-Yu Chen, Yeong-Jiunn Jang\* and Yang-Chang Wu\*



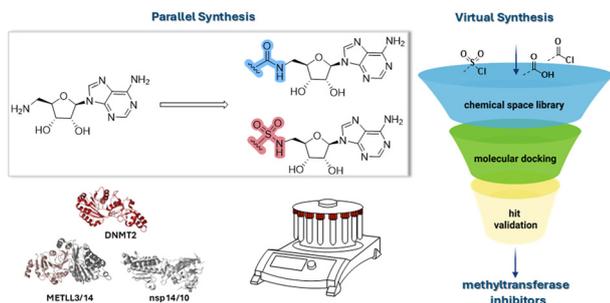
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### Bio-reductive Co(III)-doxorubicin complex for cancer cell-selective delivery of doxorubicin and potent anticancer activity

Sharmila Wahengbam, Himanshi Sharma, Phamdom Romabai Chanu, Neha Masarkar, Sukhes Mukherjee,\* Manoj B. Menon,\* Chandi Charan Malakar and Mithun Roy\*



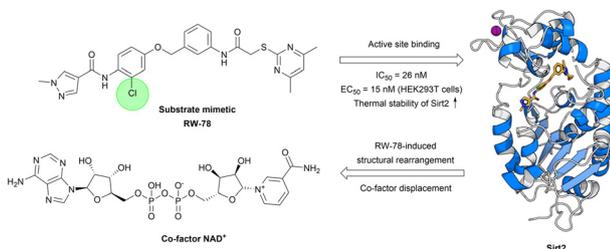
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### Parallel synthesis of 5'-amino-5'-deoxy-adenosine derivatives for focused chemical space exploration and their application as methyltransferase inhibitors

Sabrina N. Hoba, Marvin Schwickert, Luis Kammerer, Mark Sabin, Annabelle C. Weldert, Zarina Nidoieva, J. Laurenz Meidner, Fabian Barthels, Tanja Schirmeister and Christian Kersten\*

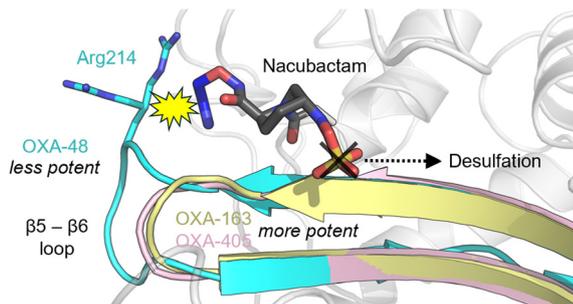
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### Tailored SirReal-type inhibitors enhance SIRT2 inhibition through ligand stabilization and disruption of NAD<sup>+</sup> co-factor binding

Ricky Wirawan, Matthias Frei, Anna Heider, Niklas Papenkorrdt, Florian Friedrich, Thomas Wein, Manfred Jung, Michael Groll, Eva M. Huber and Franz Bracher\*

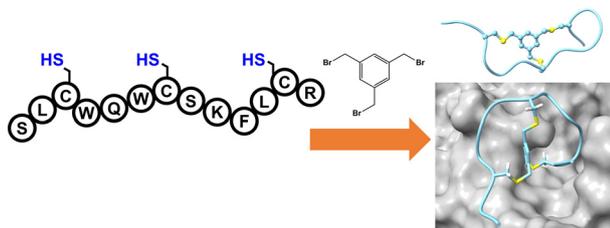
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### Electrostatic interactions influence diazabicyclooctane inhibitor potency against OXA-48-like $\beta$ -lactamases

Joseph F. Hoff, Kirsty E. Goudar, Karina Calvopiña, Michael Beer, Philip Hinchliffe, John M. Shaw, Catherine L. Tooke, Yuiko Takebayashi, Andrew F. Cadzow, Nicholas J. Harmer, Adrian J. Mulholland, Christopher J. Schofield and James Spencer\*

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### Bicyclic temporin L peptide inhibitors targeting the SARS-CoV-2 main protease: design, synthesis, *in vitro* inhibition efficiency and molecular dynamics insights

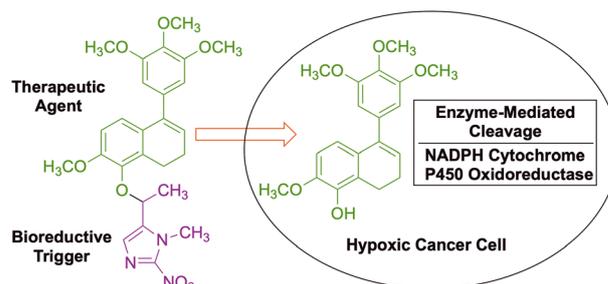
Md Taimuzzaman Sharif, Md. Omor Farque, Md Habibur Rahaman, Md. Arafat Hossen, Mohammed Akhter Hossain and Mohammad A. Halim\*



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### Targeting tumor-associated hypoxia with bio-reductively activatable prodrug conjugates derived from dihydronaphthalene, benzosuberene, and indole-based inhibitors of tubulin polymerization

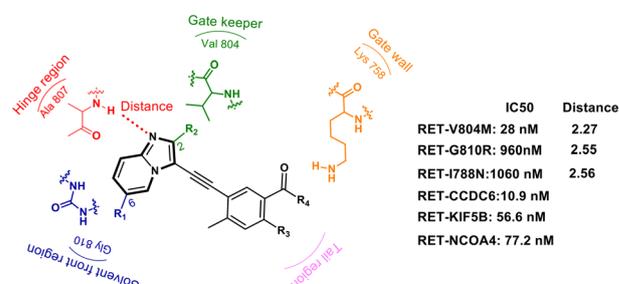
Zhe Shi, Rajsekhar Guddneppanavar, Blake A. Winn, Matthew T. MacDonough, Clinton S. George, Yifan Wang, Mark Zimmer, Jeni Gerberich, Alex Winters, Elisa Lin, Casey J. Maguire, Jacob Ford, Ernest Hamel, Ralph P. Mason, Mary Lynn Trawick and Kevin G. Pinney\*



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### Hinge binder modification into imidazopyridine for targeting actionable mutations of RET kinase

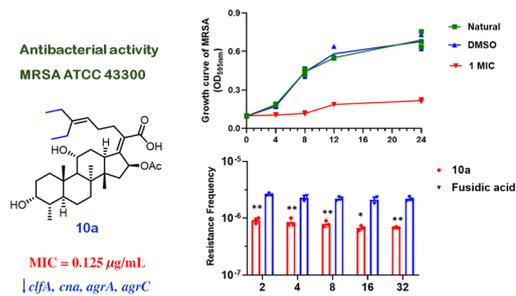
Arunkranthi Maturi, Vinay Pogaku, Surendra Kumar and Mi-hyun Kim\*



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### Olefinic side chain modification of fusidic acid enhances anti-MRSA activity and mitigates resistance development

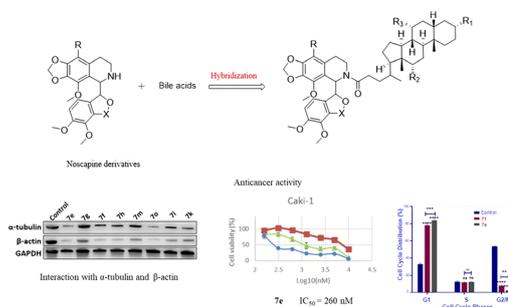
Wu-He Wu, Li-Juan Song, Kai-Yuan Bai, Fu-Huan Luo, Ya-Xin Li, Jing Luo, Xing-Fu Liu, Shang-Gao Liao, Jun-Li Ao\* and Guo-Bo Xu\*



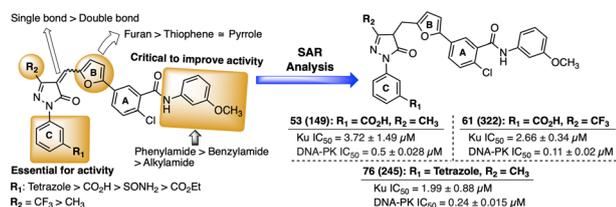
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### Noscopine-bile acid hybrids as novel anticancer agents

Kosar Babanezhad Harikandei, Peyman Salehi,\* Zahra Hasanpour, Morteza Bararjanian, Wonghee Kim, S. Mohsen Asghari and Adil Mardinoglu\*



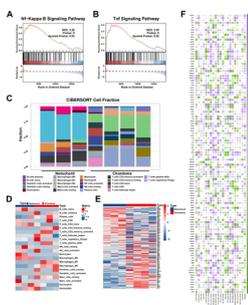
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## Design, synthesis, and structure–activity relationship studies of 4-substituted phenylpyrazolidinone derivatives as potent Ku70/80 targeted DNA-PK inhibitors

Narva Deshwar Kushwaha, Pamela VanderVere-Carozza, Tyler L. Vernon, Pamela L. Mendoza-Munoz, Jitender D. Gaddameedi, Karim Ben Ali Gacem, Joseph Engel, Jean-Baptiste Charbonnier, Navnath S. Gavande\* and John J. Turchi\*

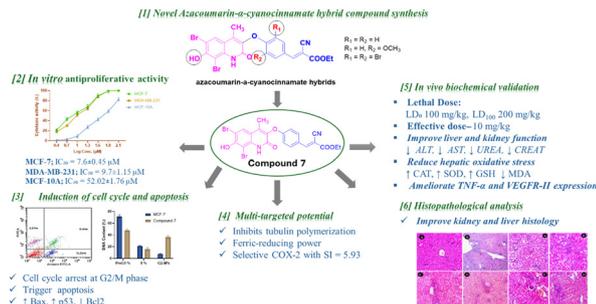
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## Analysis of long-term TNF-alpha induced EGFR tyrosine kinase inhibitor resistance in chordoma

HaoShuai Tang, QingRun Zhu, JinHong Fan, XinAo Li, ZhenYe Yan, Feng Wang, HaiFeng Wang\* and DaChuan Wang\*

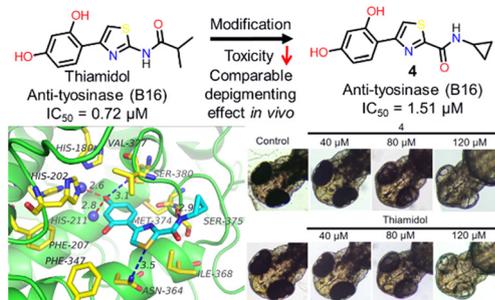
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## Multi-targeted azacoumarin–cyanocinnamate hybrids induce G<sub>2</sub>/M arrest and apoptosis via tubulin, and COX-2/VEGFR modulation: insights from *in vitro* mechanistic basis and *in vivo* validation

Manar A. El-Zend, Ibrahim M. El-Deen, Rawda M. Mansour, Tarek A. Yousef, Amal Abdullah Alrashidi and Essa M. Saied\*

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## Design and synthesis of 4-(2,4-dihydroxyphenyl)thiazole-2-carboxamide derivatives as novel tyrosinase inhibitors: *in vitro* and *in vivo* validation

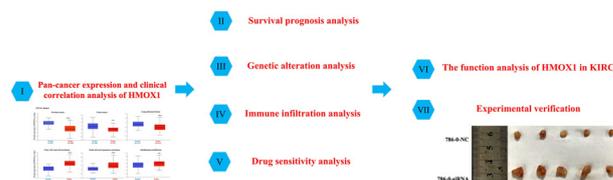
Wei Zou, Yijian Li, Zhaohang Xue, Chen Zhang, Hua Cao\* and Yan-Long Ma\*



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## Pan-cancer analysis reveals HMOX1 as a cancer prognosis and immune infiltration-related biomarker

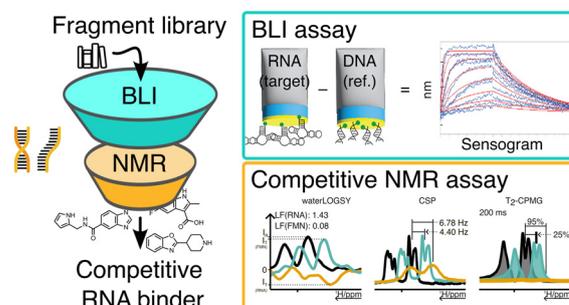
Yingli Men, Hui Wang, Xiaoyan Xu, Miling Yang, Ruiting Feng, Jizhi Zhao, Ying Liu, Lu Yang, Yinsen Song\* and Cong Ding\*



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## Discovery of RNA-binding fragments using biolayer interferometry

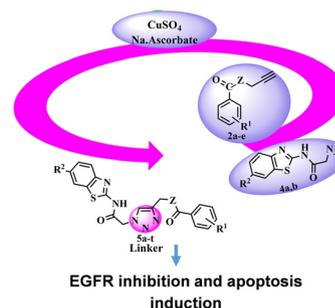
Vipul Navinchandra Panchal,\* Jan-Åke Husmann, Kaja Günther, Muhammad Zeeshan, Bengt Erik Haug and Ruth Brenk\*



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## Click synthesis of some novel benzo[d]thiazole-1,2,3-triazole hybrid compounds with benzamide and/or benzoate tethers as EGFR-dependent signaling inhibitors against breast cancer

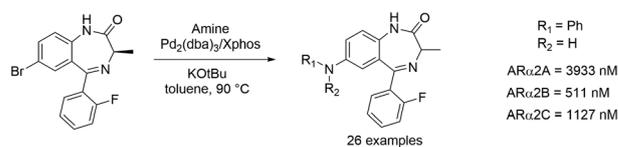
Mosa Alsehli, Mohamed S. Nafie,\* Nader R. Albujuq,\* Sanaa Bardaweel, Ateyatallah Aljuhani, Haytham O. Tawfik, Shaya Yahya Alraqa, Mohamed K. Diab, Nadjet Rezki\* and Mohamed Reda Aouad



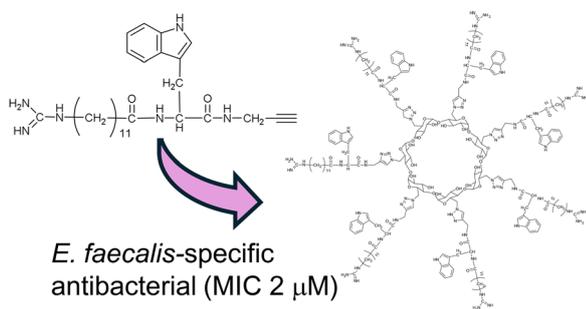
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## Development of novel alpha 2B adrenergic receptor ligands by using a palladium catalyzed Buchwald Hartwig amination with a brominated benzodiazepine

Maya R. T. Fernando, Alexander B. Vincent, Shaun G. Harrington, Mubaraq A. Toriola, Kayode M. Medubi, Michelle J. Meyer, Daniel A. Webb and Leggy A. Arnold\*



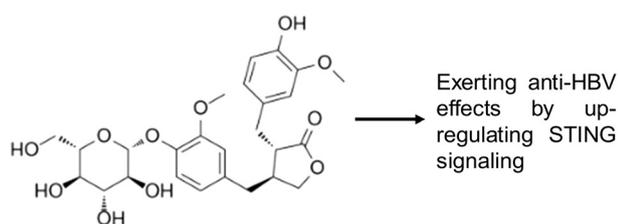
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### Cyclodextrin derivatives that exhibit *Enterococcus*-specific antibacterial properties through the accumulation of guanidino and indole groups

Atsushi Miyagawa, Tetsuro Higashino, Hisato Kato, Kazufumi Masuda and Hatsuo Yamamura\*

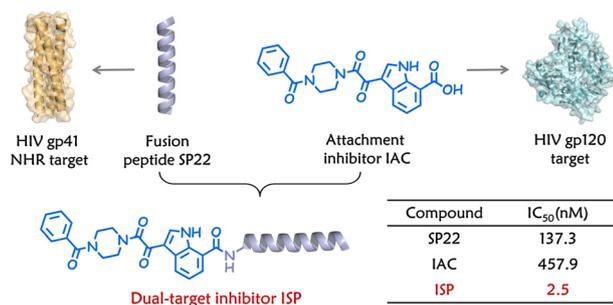
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### The lignan compound matairesinol monoglucoside induces type I interferon production in HBV infection immunity by regulating STING signaling

Mengxin Lin,\* Zhijun Su, Dawu Zeng, Jiangfu Liu, Minghui Zheng and Ruyi Guo\*

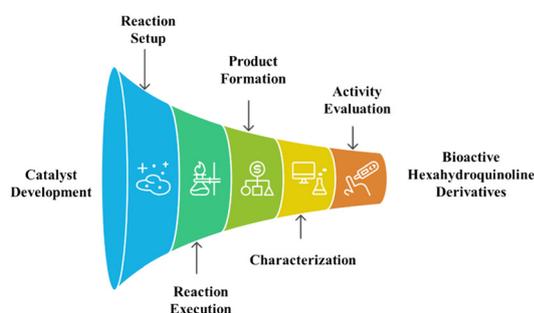
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### Design of a highly potent bifunctional HIV-1 entry inhibitor targeting both gp120 and gp41

Xinmeng Du, Qing Li, Shu Du, Huan Wang, Anqi Shi, Ming Yuan, Fei Yu,\* Yang Liu\* and Chao Wang\*

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### Bioactive assessment of hexahydroquinoline derivatives prepared via a biochar/Fe<sub>3</sub>O<sub>4</sub>@APTMS magnetic catalyst: focus on antidiabetic and antibacterial properties

A. Thoume,\* I. Nait Irahah, Z. Dahib, A. Chbel, Z. Loukhmi, F. Abdou-Allah, R. Achagar, M. Zertoubi, D. Benmessaoud Left, N. Bourhim and A. Elmaksoudi



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## Design, synthesis, and biological evaluation of indazole-based PLK4 inhibitors

Cunzheng Fan, Nian Liu, Ningyuan Hu, Minghui Tong, Xuan Shi, Han Wang, Wenqiang Sun, Zehui Qi, Haoyu Zhang, Yixiang Sun, Zixuan Gao, Dongmei Zhao\* and Maosheng Cheng

