### REVIEW

**2101 Understanding the Diversity and Molecular Basis of Biosynthesis of Heterocycles in Natural Products Produced by Actinobacteria**

Yohei Katsuyama*

---

**Keywords:** Biosynthesis, Actinobacteria, Piperidine Alkaloid, Oxazoline, Cytochrome P450

---

### PAPERS

**2123 An Efficient Catalyst-Free Synthesis of Vinyl Sulfides in Aqueous-Phase**

Jiewei Rong and Haiying Wang*

---

**Keywords:** Vinyl Sulfide, Catalyst-Free, Michael Addition, Aqueous-Phase

---

**2132 Ultrasound-Promoted Kabachnik–Fields Synthesis of Novel Chromonyl α-Aminophosphonate Derivatives Incorporating Nitrogen Heterocycles Using CdI

Nanoparticles as an Efficient Catalyst: Evaluation of Their Antifungal Properties**

Mohamed Hussien, Tarik E. Ali,* Ibrahim El-Tantawy El Sayed, Abdelaleem Hassan Abdelaleem, and H. M. Torkey

---

**Keywords:** Ultrasound, Chromone, Aminophosphonate, CdI

Nanoparticle, Antifungal Activity

---

**2153 Synthesis and in vitro Triglyceride-Lowering Activity of 2,3-Disubstituted Berberine Derivatives**

Hualin Zhang, Yue Wang, Weicong Zhang, Zhixiong Li, and Weina Han*

---

**Keywords:** Synthesis, Triglyceride-Lowering Activity, Berberine

---
Visible-Light-Induced Formal [3+2] Cycloaddition of α,β-Unsaturated Imides or Amide with \(N,N,N,N',N'\)-Tetramethyldiaminomethane for the Synthesis of 4-Alkyl- and 4-Aryl-1-methyl-2-pyrrolidinones

Kensosuke Itoh,* Sho Ito, Shun-ichi Nagao, Ken Tokunaga, Takaaki Mizuguchi, Fumika Karaki, Shigeto Hirayama, Yoshio Shibagaki, Masashi Hashimoto, and Hidesaki Fujii*

Nitrogen Heterocycle  Cycloaddition  Photo-Reaction  Radical Reaction  Domino Reaction

4-Amino-3-formylcoumarin as Building Block for Construction of Novel Heteroannulated Coumarins: Synthesis, Characterization and Antimicrobial Evaluation

Najla A. Alshaye and Magdy A. Ibrahim*

4-Amino-3-formylcoumarin  Chromeno[3,4-b]pyrazolo[3,4-f]quinoline  Chromeno[3',4':5,6]pyrido[2,3-h]quinazoline

Mechanochemical Rapid Synthesis of Novel Thiazoles Linked to 2H-Chromen-2-one Moiety

Tamer S. Saleh,* Abdullah S. Al-Bogami, Faisel M. Aqlan, and Omar A. Almaghrabi

Mechanochemistry  1,3-Thiazole  Green Chemistry  Silica Triflate  Ball Mill

One-Pot Synthesis of \(N\)-Substituted 2-Aminothiazole Derivatives and \textit{in vitro} Antibacterial Activity

Nga Hang Thi Phan,* Van-Hieu Mai, and Xuan Minh Thi Nguyen

2-Aminothiazole  One-Pot Synthesis  Microwave Irradiation  Antibacterial Activity
Synthesis and Characterization of 6-Chloro-N-(substituted benzylidene)benzothiazol-2-amine by Microwave Irradiation
Archana Ratnakar Baraskar and Ratnamala P. Sonawane*

Three-Component Synthesis of Tetrahydrobenzo[b]pyrans Catalyzed by Sodium Cyclamate
Fatemeh Baghaie and Hamzeh Kiyani*

TOTAL SYNTHESIS OF HETEROCYCLIC NATURAL PRODUCTS

Polyketides
Aromatics
Terpenes
Alkaloids
Miscellaneous
Brush Up Your Heterocycles
Contributors To This Issue

2132 Abdelaleem, Abdelaleem Hassan
2195 Al-Bogami, Abdullah S.
2132 Ali, Tarik E.
2195 Almaghrabi, Omar A.
2179 Alishaye, Najla A.
2195 Aqlan, Faisal M.
2226 Baghaie, Fatemeh
2219 Baraskar, Archana Ratnakar
2132 El Sayed, Ibrahim El-Tantawy
2169 Fujii, Hideaki
2153 Han, Weina
2169 Hashimoto, Masashi
2169 Hirayama, Shigeto
2132 Hussien, Mohamed
2179 Ibrahim, Magdy A.
2169 Ito, Sho
2169 Itoh, Kennosuke
2169 Karaki, Fumika
2101 Katsuyama, Yohei
2226 Kiyani, Hamzeh
2153 Li, Zhixiong
2204 Mai, Van-Hieu
2169 Mizuguchi, Takaaki
2169 Nagao, Shun-ichi
2204 Nguyen, Xuan Minh Thi
2204 Phan, Nga Hang Thi
2123 Rong, Jiewei
2195 Saleh, Tamer S.
2169 Shibagaki, Yoshio
2219 Sonawane, Ratnamala P.
2169 Tokunaga, Ken
2132 Torkey, H. M.
2123 Wang, Haiying
2153 Wang, Yue
2153 Zhang, Hualin
2153 Zhang, Weicong