Aims & Scope
Medicinal plants are the most important sources of biologically active substances. Based on the data of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), there are over 52000 medicinal plant species on the earth, and about 80% of the population in the developing countries relies on medicinal plants to meet their primary healthcare needs. Nowadays, the demand of medicinal plants is increasing rapidly. As estimated by WHO, it will be raised from current $14 billion annually to $5 trillion by the year 2050. With the development of research technologies, great efforts have been made to breed and cultivate medicinal plants, dissect their genomes, and elucidate bioactive compounds and its biosynthetic mechanisms. This thematic issue will summarize recent advances in biosynthesis and regulation of various bioactive compounds in medicinal plants. The research progress in molecular marker-assisted breeding, hairy root cultivation, transcription factor and noncoding RNA-mediated regulatory mechanisms, and the pathways and genes involved in the biosynthesis of bioactive compounds, such as taxols, saikosaponins and ginsenosides, will be reviewed. Worldwide research trends on cannabis will also be discussed. It aims to help demonstrate biosynthetic mechanisms of active substances, improve herbal quality, and produce bioactive compounds through synthetic biology.

Keywords
Bioactive compound, Cannabis, Ginsenoside, Hairy root culture, Medicinal plant, Molecular marker-assisted breeding, Noncoding RNA, Saikosaponin, Transcription factor, Taxol.

Subtopics
- Molecular marker-assisted breeding of medicinal plants
- Bioactive compound production in hairy roots
- Pathways and genes involved in bioactive compound biosynthesis
- Transcription factors regulating bioactive compound biosynthesis
- Noncoding RNAs in medicinal plants

Schedule
- Manuscript submission deadline: January 15, 2020
- Peer review due: February 15, 2020
- Revision due: March 01, 2020
- Announcement of acceptance by the GuestEditors: March 15, 2020
- Final manuscripts due: April 01, 2020

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1. Recent Advances in Molecular Marker-Assisted Breeding for Quality Improvement of Traditional Chinese Medicine

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2. Application of Hairy Root Culture for Production of Bioactive Compounds in Medicinal Plants

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3. Advances in Botany, Phytochemistry and Pharmacology of *Bupleurum chinense* and *B. scorzonerifolium*

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4. Ginseng Omics for Ginsenosides Biosynthesis

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5. Research Progress in Taxol Biosynthesis in *Taxus*

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6. Transcriptional Factors in Regulation of Active Component Biosynthesis in
Medicinal Plants

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7. Herbal Noncoding RNAs Associated with Bioactive Compound Production

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8. Worldwide Research Trends on Cannibis: Suggestion for Researchers

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