

### 103.1 Introduction

Qingdai, Indigo naturalis, is the natural dye obtained from plant material of *Baphicacanthus cusia* (Nees) Bremek. (Acanthaceae), *Indigofera suffruticosa* Mill. (Fabaceae), *Polygonum tinctorium* Ait. (Polygonaceae), or *Isatis indigotica* Fort. (Brassicaceae). The natural indigo is officially listed in the Chinese Pharmacopoeia and is to be used in traditional Chinese medicine as a hemostatic, antipyretic, anti-inflammatory, and sedative in the treatment of bacterial and viral infections.

*Isatis indigotica* and *Polygonum tinctorium* are also separately entered in the Chinese Pharmacopoeia:

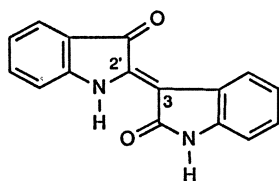
- Daqingye, Folium Isatidis, is the dry leaves of *I. indigotica* collected in the summer and fall.
- Banlangen, Radix Isatidis, is the dry roots of *I. indigotica* collected in the fall.
- Liaodaqingye, Folium Polygoni tinctorii, is the dry leaves of *P. tinctorium* collected in the summer and fall.

These three herbal medicines are used as antipyretic, antibacterial, and antiviral agents against infectious diseases.

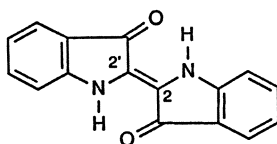
### 103.2 Chemical Constituents

#### 103.2.1 Chemical Constituents of *Baphicacanthus cusia*

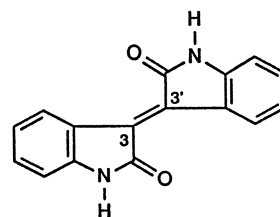
From the natural indigo isolated from *B. cusia*, indirubin (103-1) [1–3], indigo (103-2) [3], and isoindigo (103-3) were isolated and identified. The discovery of the antileukemic activity of natural indigo and the isolation of indirubin as the effective ingredient have greatly stimulated interest in the study of antitumor agents from natural sources [4–6].



Indirubin (103-1)



Indigo (103-2)



Isoindigo (103-3)