Abstract
Licorice is the most used crude drug in Kampo medicines (traditional Chinese medicines modified in Japan). The extract of the medicinal plant is also used as the basis of anti-ulcer medicines for treatment of peptic ulcer. Among the chemical constituents of the plant, glabridin and glabrene (components of *Glycyrrhiza glabra*), licochalcone A (*G. inflata*), licoricidin and licoisoflavone B (*G. uralensis*) exhibited inhibitory activity against the growth of *Helicobacter pylori* in vitro. These flavonoids also showed anti-*H. pylori* activity against a clarithromycin (CLAR) and amoxicillin (AMOX)-resistant strain. We also investigated the methanol extract of *G. uralensis*. From the extract, three new isoflavonoids (3-arylcoumarin, pterocarpan, and isoflavan) with a pyran ring, gancaonols A–C, were isolated together with 15 known flavonoids. Among these compounds, vestitol, licoricone, 1-methoxyphaseollidin and gancaonol C exhibited anti-*H. pylori* activity against the CLAR and AMOX-resistant strain as well as four CLAR (AMOX)-sensitive strains. Glycyrin, formononetin, isolicoflavonol, glyasperin D, 6,8-diprenylorobol, gancaonin I, dihydrolicoisoflavone A, and gancaonol B possessed weaker anti-*H. pylori* activity. These compounds may be useful chemopreventive agents for peptic ulcer or gastric cancer in *H. pylori*-infected individuals.