Iridoid, phenylethanoid and flavonoid glycosides from *Forsythia suspensa*

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Abstract

As part of our continuing efforts to explore bioactive compounds from natural resources, a new iridoid glycoside, adoxosidic acid-6′-oleuropenic ester (1), together with one known phenylethanoid glycoside (2) and two known flavonoid glycosides (3-4) were isolated from the fruits of *Forsythia suspensa*. The structure of the new compound (1) was elucidated through 1D and 2D NMR spectroscopic data and HR-ESIMS. Interestingly, compound 1 was a monoterpenic ester of one iridoid glycoside. Compounds 2-4 were identified as calceolarioside A (2), kaempferol-3-O-rutinoside (3), kampferol-3-O-robinobioside (4) on the basis of NMR spectroscopic data analyses and comparison with the data reported in the literature. The antiviral activity against influenza A (H5N1) virus of compound 1 was studied as well.
Supplementary data

S1. $^1$H NMR spectrum of adoxosidic acid-6′-oleuroperic acetate (1)
S2. $^{13}$C NMR spectrum of adoxosidic acid-6′-oleuroperic acetate (1)
S3. HRESIMS spectrum of adoxosidic acid-6′-oleuroperic acetate (1)
S4. $^1$H, $^1$H-COSY spectrum of adoxosidic acid-6′-oleuroperic acetate (1)
S5. HSQC spectrum of adoxosidic acid-6′-oleuroperic acetate (1)
S6. HMBC spectrum of adoxosidic acid-6′-oleuroperic acetate (1)
S7. NOESY spectrum of adoxosidic acid-6′-oleuroperic acetate (1)

compound’ NMR spectrum were tested in CD$_3$OD
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