FUROFURAN LIGNANS FROM THE BARK OF *Magnolia kobus*

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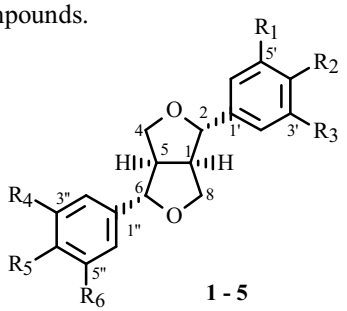
*A new furofuran lignan (**1**) along with four knownones (**2–5**) were isolated from the bark of* Magnolia kobus. *Their structures were elucidated as (+)-2α-(3′,4′-dimethoxyphenyl)-6α-(3″-hydroxy-4″,5″-dimethoxyphenyl)-3,7-dioxabicyclo[3.3.0]octane (**1**), (+)-sesamin (**2**), (+)-yangambin (**3**), (+)-kobusin (**4**), and (+)-eudesmin (**5**) on the basis of their comprehensive spectroscopic analysis, including 2D NMR, and by comparison of their spectral data with those of related compounds.*

Key words: *Magnolia kobus*, Magnoliaceae, furofuran lignan, (+)-2α-(3′,4′-dimethoxyphenyl)-6α-(3″-hydroxy-4″,5″-dimethoxyphenyl)-3,7-dioxabicyclo[3.3.0]octane.

Magnolia kobus DC belongs to the Magnoliaceae family. It is a medium sized deciduous tree native to Japan, also found in China and Korea [1]. It is a valuable decorative plant in Japan and is famous, with the local name Kobusi. Young buds of *M. kobus* are important ingredients in the Chinese medicine 'Shin-I', which is used as a sedative or analgesic. In Japan 'Shin-I' is taken internally for the treatment of headaches or colds [2]. Earlier chemical studies on *M. kobus* revealed it to be a source of bioactive terpenes and lignans [3–7]. Lignans have evoked a great deal of interest due to their widespread occurrence in nature [8, 9] and use in traditional medicines [10, 11]. Furofurans, one of the major subclasses of the lignan family, exhibit a wide variety of biological activities, including antitumor, antimitotic, antiviral [12], antioxidant, antihypertensive [13, 14], and antidiabetic [15], and is an inhibitor of platelet-activating factor (PAF) [16].

Literature survey of *M. kobus* revealed that this plant has not been studied much so far except for a few short reports [3–7]. As part of our ongoing research on *M. kobus,* we isolated a new furofuran lignan **1** along with four knownones **2–5** from the bark of *M. kobus*. This paper deals with the isolation and structure elucidation of these compounds using their detailed NMR (^{1}H, ^{13}C, DEPT, COSY, NOESY, HMQC and HMBC), HREIMS, EIMS, IR, and UV spectroscopic analysis and comparison of their spectral data with those of related compounds.



1 - 5

1: R_1 = H, R_2 = R_3 = R_5 = R_6 = OCH_3, R_4 = OH
2: R_1 = R_6 = H, R_2R_3 = R_4R_5 = OCH_2O
3: R_1 = R_2 = R_3 = R_4 = R_5 = R_6 = OCH_3
4: R_1 = R_6 = H, R_2 = R_3 = OCH_3, R_4R_5 = OCH_2O
5: R_1 = R_6 = H, R_2 = R_3 = R_4 = R_5 = OCH_3

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