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## New cytotoxic diels-alder type adducts from root cultures of *Morus alba* var. *shalun*

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*Morus* is one genus of plants belonging to *Moraceae* family that has important economic and medicinal value. The leaves of some *Morus* plants are indispensable food for silkworm, while their root bark has been used for treatment of diabetes, arthritis, and rheumatism. Previous phytochemical investigation showed that this genus produces a variety of phenolic compounds including stilbenes, 2-arylbenzofurans, flavonoids, and Diels-Alder adducts. Diels-Alder type adducts are the unique ones due to their complex and fascinating structures. Some of these compounds showed important and various bioactivities, such as cytotoxicity, antioxidant, antimicrobial, anti-inflammatory, and antiviral. The source of biologically important secondary metabolites was obtained conventionally from the intact plants. However, recent development in plant biotechnological approach has shown the possibility of plant tissue cultures as an alternative source for producing bioactive secondary metabolites. Therefore, the isolation and characterization of secondary metabolites from *Morus alba* var. *shalun* root cultures were implemented in this research. Three new Diels-Alder type adducts (1-3) together with two known Diels-Alder type adducts (4-5) were isolated from the EtOAc extract of liquid medium and MeOH extract of *Morus alba* var. *shalun* root cultures. The structures of the isolated compounds were elucidated based on a comprehensive analysis of spectroscopic data, including 1D, 2D, and MS data. Compound 1-5 exhibited significant cytotoxicity against murine leukemia P-388 cells with IC<sub>50</sub> values 0.7, 0.7, 2.0, 1.7, and 0.6 µg/mL respectively. These results demonstrate the potency of compound 1-5 as the lead compounds for anticancer agent.

### Biography

Rizki Fitriani has completed her Master's degree in Natural Products Chemistry from Bandung Institute of Technology. She is currently a Doctoral Candidate at the same university. Her research interests focus on natural products isolation and their structural characterization, as well as bioassay on the isolated pure compounds.

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