

**EXTRACTION, PARTIAL ISOLATION AND DETECTION
OF BORAPETOSIDE A FROM THE LEAVES OF
Tinospora crispa (L.) Hook. f. & Thomson
(MAKABUHAY)**

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ABSTRACT

Borapetoside A was extracted from the leaves of *Tinospora crispa* by a series of liquid-liquid extraction using solvents of different polarities (chloroform, CHCl₃; ethyl acetate, EtOAc; n-butanol, n-BuOH). The n-BuOH extract was concentrated and partially purified by column chromatography using solvents of increasing polarity (100% dichloromethane (DCM), 1:1 DCM-EtOAc, 100% EtOAc) to yield A1, A2 and A3 fractions, respectively. TLC profiles of each fractions revealed that A2 fraction has the most distinct and relatively well-separated spots among the other fractions. For this reason, A2 was subjected for targeted detection of borapetoside A using LC-MS. Results revealed the presence of LC peak at m/z 537.3380 Da that eluted at approximately 2.59 min. Based on several published literatures on *T. crispa* (Bisset and Nwaiwu, 1983; Fukuda et al., 1983, 1985, 1986; Pathak et al., 1995; Martin et al., 1996; Cavin et al., 1998; Kongkathip et al., 2002; Choudhary et al., 2010), there is no known compound in *T. crispa* that corresponds to this m/z value. The closest molecule that we can come up with, given the LC result in this study, is borapetoside A having an exact molecular ion mass of 538.2050 Da. The mass difference of 1 Da maybe brought about by a loss of a neutral H atom which was previously observed in samples subjected to ESI (Ramalho et al., 1997; He et al., 2013; Guo et al., 2014). Results therefore suggest that the method for partial extraction, isolation and detection of borapetoside A in the leaves of *T. crispa* outlined in this study is successful. The method, however, must be validated by subjecting A2 into further purification by preparative HPLC and characterization of the resulting LC fractions using MS and NMR spectroscopy.