# Prolyl Endopeptidase Inhibitors from *Syzygium samarangense* (Blume) Merr. & L. M. Perry

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Compounds isolated from the hexane extract of the leaves of *Syzygium samarangense* (Blume) Merr. & L. M. Perry were tested for inhibitory activity against the following serine proteases: trypsin, thrombin and prolyl endopeptidase. The compounds were identified as an intractable mixture of $\alpha$-carotene and $\beta$-carotene (**1**), lupeol (**2**), betulin (**3**), *epi*-betulinic acid (**4**), 2′,4′-dihydroxy-6′-methoxy-3′-methylchalcone (**5**), 2′-hydroxy-4′,6′-dimethoxy-3′-methylchalcone (**6**), 2′,4′-dihydroxy-6′-methoxy-3′,5′-dimethylchalcone (**7**), 2′,4′-dihydroxy-6′-methoxy-3′-methyldihydrochalcone (**8**) and 7-hydroxy-5-methoxy-6,8-dimethylflavanone (**9**). Hydrogenation of compounds **5**, **6** and **7** yielded compound **8**, 2′-hydroxy-4′,6′-dimethoxy-3′-methyldihydrochalcone (**10**) and 2′,4′-dihydroxy-6′-methoxy-3′,5′-dimethyldihydrochalcone (**11**), respectively. The hydrogenated products of compounds **6** and **7** were also tested for enzyme inhibitory activity. In addition, $\beta$-sitosterol (**12**) and $\beta$-D-sitosterylglucoside (**13**) were also isolated. This is the first report of the isolation of compounds **1**–**6**, **8** and **13** from this plant. Compounds **3**–**8** and **10** exhibited significant and selective inhibition against prolyl endopeptidase among three serine proteases. This is the first report of this kind of activity for all these compounds.

*Key words: Syzygium samarangense*, Prolyl Endopeptidase, Flavonoids