E2-09: Pyranocoumarins from the stem bark of *Calophyllum cordato-oblongum* Thw

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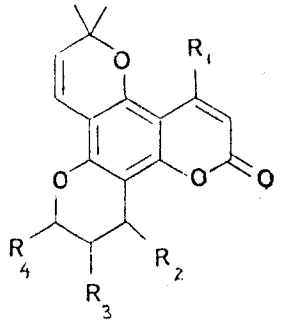
Some pyranocoumarin derivatives isolated from *Calophyllum* species have been shown to inhibit HIV-1 replications and cytopathicity through its interaction with the HIV-1 RT. *Calophyllum* pyranocoumarins, calanolide A and inophyllum B have shown activity against AZT resistant viral strains as well as A 17 strain which is known to be resistant to non-nucleoside RT. inhibitors. Therefore pyranocoumarins provide a new class of anti HIV compounds.

As a part of continuing studies of the *Calophyllum* species. with the idea of isolating potent anti-HIV compounds, the extracts of *C.cordato-oblongum* were investigated.

C.cordato-oblongum of the family Guttiferae is a rare endemic plant and grows in the lowland evergreen forests in Sri Lanka. The shade dried plant material was milled and successively extracted with hexane, ethylacelate and methanol. Medium pressure column chromatography of the hexane extract of the above plant afforded 3 UV active compounds.

UV and IR spectroscopy showed these compounds to be coumarins. The CIMS of the least polar compound showed it has a M/z of 404 while the other two had M/Z 356. Further investigation of the coumarin with 404 molecular weight, suggested this compound to be soulattrolide earlier reported from *C.moonii*. This was confirmed by the direct comparison of the least polar coumarin with an authentic sample of soulatrolide. The two coumarins were identified as cordatolide A and B, by physical and chemical methods. These pyranocoumarins were submitted to anti-HIV activity testing, using aspartic protease.



Soulattrolide Cordatolide A Cordatolide B Inophyllum B Calanolide A

R_1	Ph	CH_3	CH_3	Ph	$CH_2\ CH_2\ CH_3$
R2	ß-OH	ß-OH	α-OH	ß-OH	ß-OH
R3	ß-CH_3	α-CH_3	α-CH_3	α-CH_3	α-CH_3
R4	α-CH_3	ß-CH_3	ß-CH_3	ß-CH_3	ß-CH_3