Towards the Total Synthesis of the Tetranortriterpene Gedunin

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Gedunin (1), which was first isolated from the West African timber Entandrophragma angolense in 1960, has been reported to exhibit a diverse range of biological activities, including antimalarial, antifungal, allergic response, peptic ulcer, anti-cancer, eryptosis, antifilarial, and insecticidal activity. In terms of anticancer activity, however, gedunin (1) was explored through the use of a connectivity map, and found to exhibited antiproliferative activity through the heat shock protein Hsp90. Such compelling biological interest in this compound inspired our group to investigate a synthetic route to gedunin so as to open opportunities for better understanding the underlying biochemical pathways. The lecture will describe our efforts in achieving the construction of a key advanced intermediate and subsequent activities towards total synthesis.

