

O-21: KIBDELONES AND ANALOGUES: NEW HETEROCYCLIC POLYKETIDE ANTICANCER AGENTS FROM A RARE ACTINOMYCETE GENUS, *KIBDELOSPORANGIUM*

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A new series of anticancer polyketide metabolites, the kibelones, have been identified from the fermentation of a rare actinomyces, *Kibdelosporangium* sp. (MST-108465), isolated from a soil sample collected near Port Augusta in South Australia. Kibelones A-C (**1**, **2** and **4**), and the corresponding kibelone B rhamnoside (**3**) incorporate novel structural features and under suitable conditions under go redox equilibration. The kibelone aglycones **1**, **2** and **4** exhibit potent (nM) and selective cytotoxicity against a panel of human tumor cell lines, and are currently under consideration as potential anticancer lead compounds. Additional co-metabolites include the unprecedented isokibelones A-C and 25-methoxy-24-oxo-kibelone C. This report describes the isolation, characterization and structure elucidation of all members of this new family of polyketides. It also includes investigations into chemical stability and interconversion, and anticancer SAR studies.

Student Research Award Winner

