Anti-HIV activity of natural triterpenoids and hemisynthetic derivatives 2004-2009

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The continued advance of HIV-AIDS makes the development of relatively inexpensive, freely accessible, and mechanistically more diverse antiviral therapies an urgent need. Natural products are, directly or indirectly, an important potential source of compounds meeting these conditions. A review of the recent literature indicates that some hemisynthetic triterpenoid derivatives, particularly belonging to the lupane, oleanane and ursane series, may be nearing a stage where they can be used to complement existing therapeutic approaches. On the other hand, although some natural derivatives of tetracyclic terpenoid families have revealed many novel structures and some promise as anti-HIV substances, their chemical modification to improve their potency and selectivity remains practically untouched. While ongoing work with the more 'classical' pentacyclic triterpenoids will continue to be a fertile field for HIV-AIDS drug discovery, the other structural groups offer unprecedented opportunities