Studies towards the synthesis of HIV-1 dual action inhibitors

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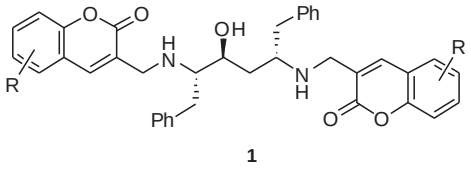
The HIV/AIDS pandemic poses enormous health-threats in the developing world. In sub-Saharan Africa alone, the annual death toll is estimated to run into millions. The phenomenon of resistance to drugs currently used in the treatment of HIV remains a matter of serious concern and the development of novel therapeutics has become a research priority. The inhibition of critical, disease-specific enzymes constitutes an important therapeutic strategy. In parallel programmes in our laboratories, attention has been given to designing, synthesising and evaluating HIV-1 protease (PR), integrase (IN) and reverse transcriptase (RT) inhibitors.

We have reported the preparation of novel ritonavir analogues (*e.g.,* **1**) as potential HIV-1 PR inhibitors, in which chromene, thiochromene, chromone or coumarin systems are linked to the termini of the central hydroxyethylene dipeptide isostere[1] and, more recently, the development of AZT-coumarin[2,3] (*e.g*., **2**) and -cinnamate ester[4] conjugates as potential dual-action PR/RT or IN/RT inhibitors. Progress in these parallel studies will be outlined.



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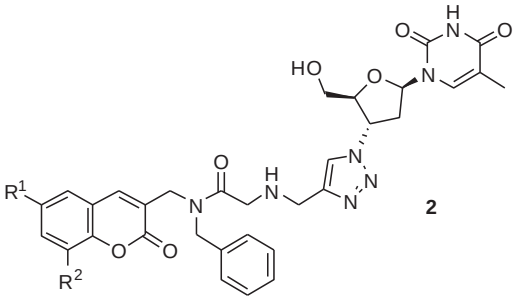

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References

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