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Preparation and cytotoxic evaluation of new steroidal oximes and aza-homosteroids from diosgenin and cholesterol

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Highlights

- Straightforward access to steroidal oximes at B-ring with a variety of side chains.
- Synthesis of novel A/B-homolactams were obtained from cholesterol or diosgenin.
- Selective cytotoxicity against MCF-7 cells was achieved (low micromolar range).

Abstract

Using cholesterol and diosgenin as starting materials, we have designed a straightforward methodology to prepare in a reduced number of steps a novel series of steroidal oximes and their aza-homolactam analogs with four types of side chains: cholestane, spirostane, 22-oxocholestane and 22,26-epoxycholestene. The products were evaluated for their cytotoxic activity against the MCF-7 breast cancer cell line. Moreover, the selectivity of the most active compounds was determined against