Thesis Title Synthesis of 9′,10′ - Dihydro - 5 - acetoxy - spiro [3 - cyclopenten -1,11′- (9,10) - ethanoanthracene] - 2 - one : A Precursor Approach to (±) - Pentenomycin II and (±) - Epipentenomycin II

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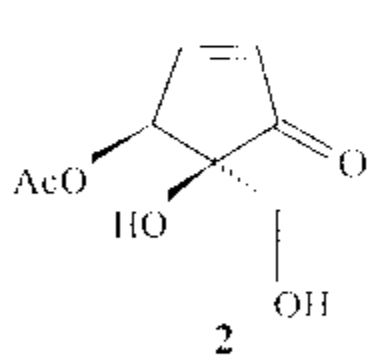
Abstract

This thesis described a convenient synthesis of 9′,10′ - dihydro - 5 - acetoxy - spiro [3 - cyclopenten - 1,11′- (9,10) - ethanoanthracene] - 2 - one , a precursor approach to (±) - Pentenomycin II **(2)** and (±) - Epipentenomycin II **(5)** , employing anthracene **(32)** and methylacrylate **(18)** as starting materials to react by Diels – Alder fashion giving ester adduct **33**. Alkylation of the adduct **33** with allyl bromide gave ester adduct **34** which then cyclised to yield compounds **35** and **36**. Epoxidation of **35** gave a mixture of two isomers; **37(a)** and **37(b).** After ring - opening of the epoxides, a mixture of two isomers **38(a)** and **38(b)** were obtained. Finally, acetylation of isomers **38(a)** and **38(b)** resulted in **39(a)** and **39(b).**



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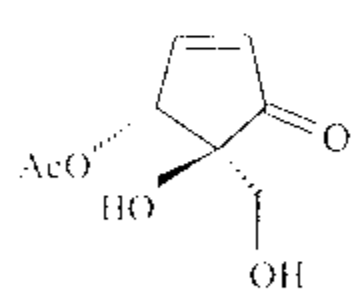

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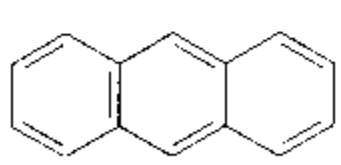

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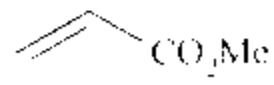

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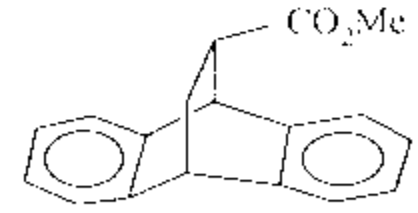

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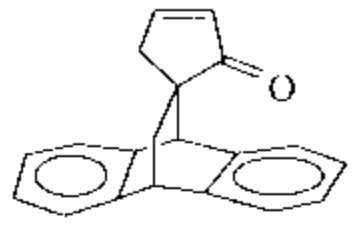

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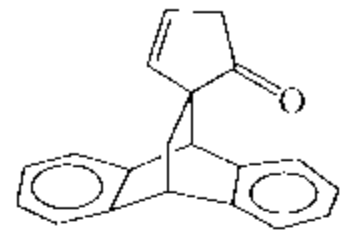

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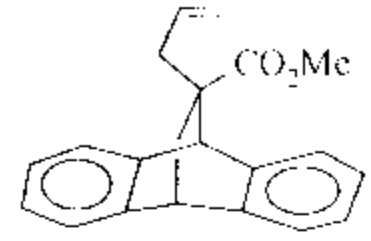

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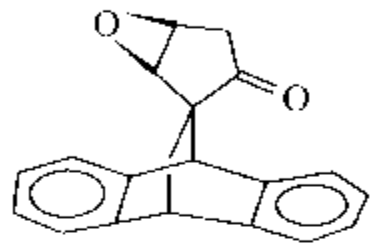
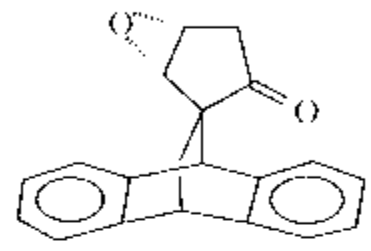
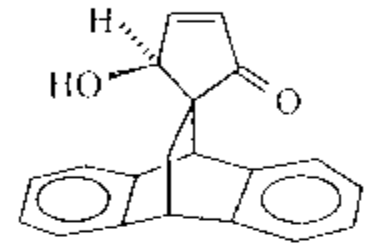


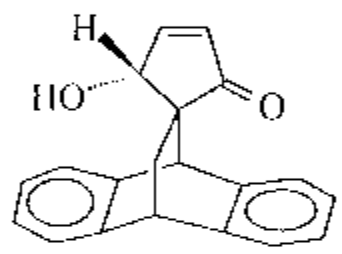
37(a)



37(b)



38(a)



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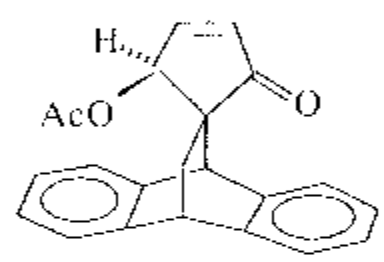
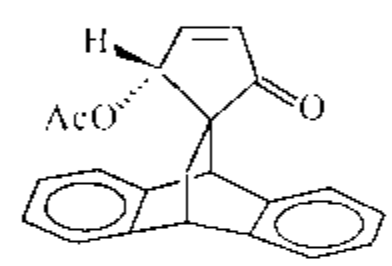


39(a)



39(b)