

Natural product chemistry

1 – Overview of natural product chemistry

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What is natural product?



What are primary and secondary metabolites?

Natural product chemistry

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 Typical flow in natural product chemistry

Natural product chemistry

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Drug development using artificial compounds (comparison with natural products)



Power of natural products (examples of natural products that made huge impacts)

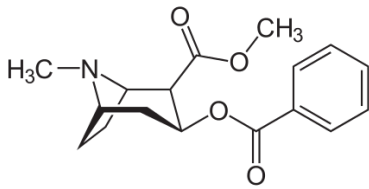
Natural product chemistry

1 – Overview of natural product chemistry

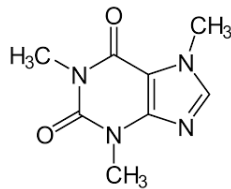
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Major categories of natural products

✓ alkaloids (highly modified amino acids)

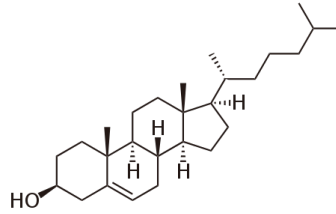


cocaine

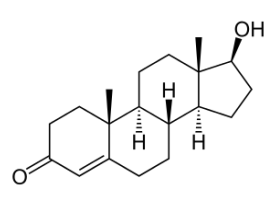


caffeine

✓ steroids (terpenes with a specific ring system)

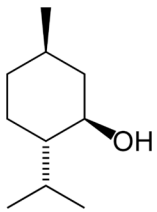


cholesterol

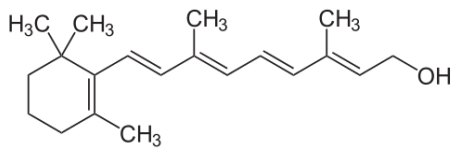


testosterone

✓ terpenoids (oligomerized isoprenes)

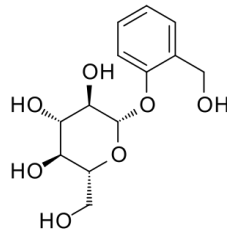


menthol

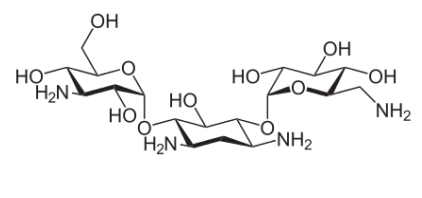


retinol

✓ glycoside (highly modified sugars)

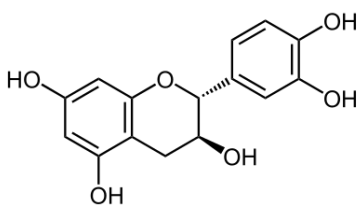


salicin

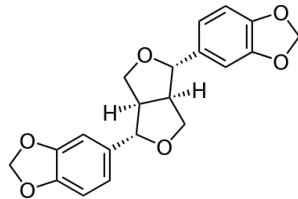


kanamycin

✓ polyphenol

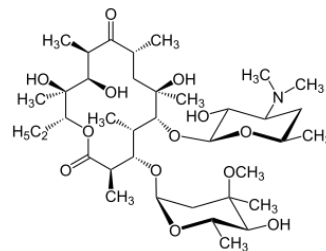


catechin

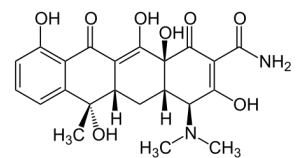


sesamin

✓ polyketide (oligomerized malonic acid)

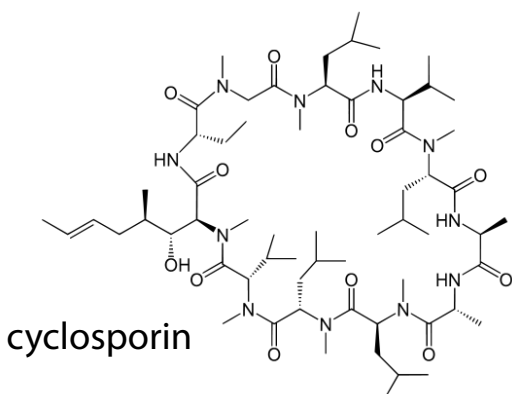


erythromycin

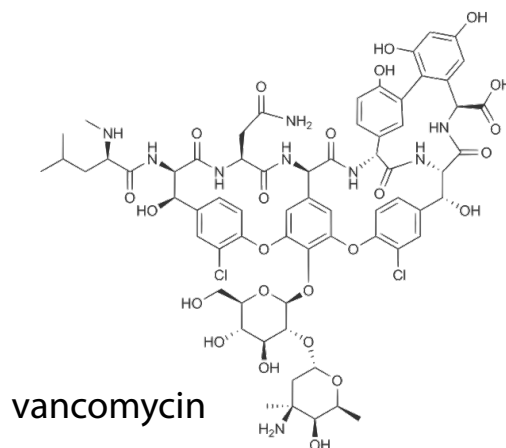


tetracycline

✓ peptides (amino acid oligomers)



cyclosporin



vancomycin