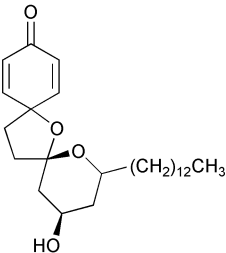
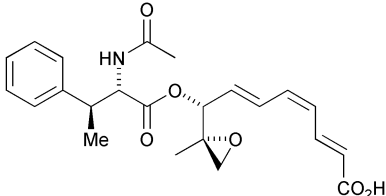
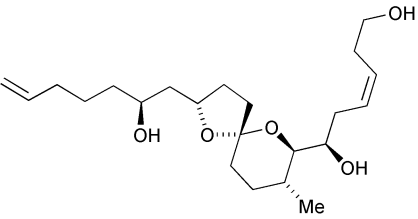
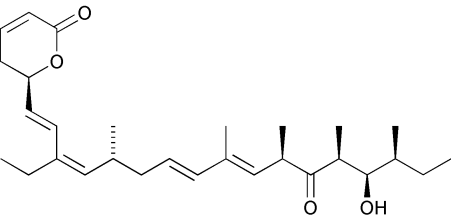
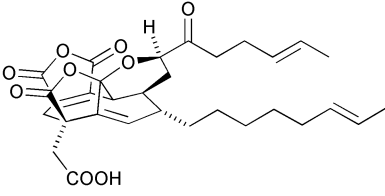
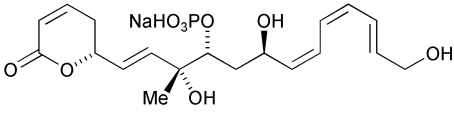
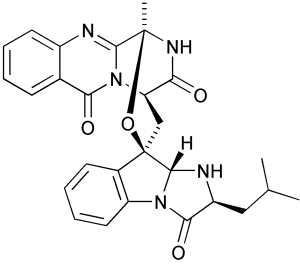
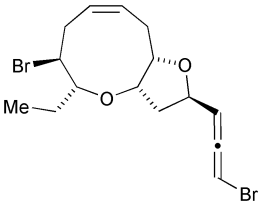
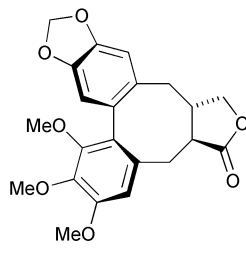
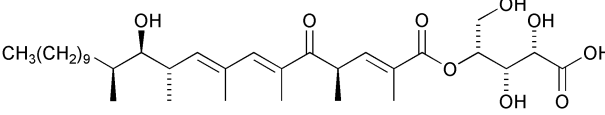
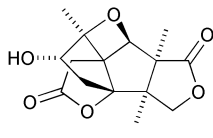


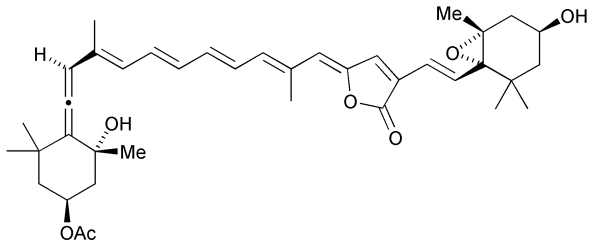
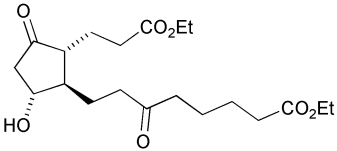
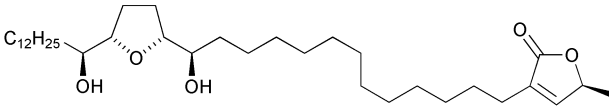
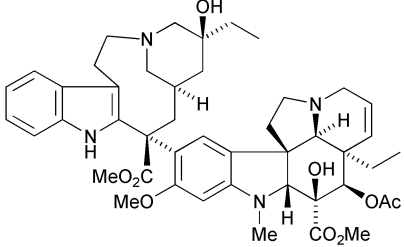
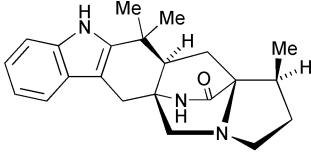
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Perkin 1 Abstracts: Natural Product Synthesis aims to highlight syntheses that have been recently published. It includes brief descriptions of *biological activity* and *key steps*. A more comprehensive list of Natural Product syntheses and isolations can be found in *Natural Product Updates*.

<p>(±)-Aculeatin A</p> <p><i>Biological activity:</i> antiprotozoal agent.</p> <p><i>Key steps:</i> PIFA-mediated dispiroketal formation.</p> <p>Y.-S. Wong, <i>Chem. Commun.</i>, 2002, 686.</p>	
<p>AK-toxin I</p> <p><i>Biological activity:</i> causes necrosis of susceptible cultivars of the Japanese pear.</p> <p><i>Key steps:</i> (a) stereoselective Pd-catalysed hydrogenolysis; (b) Stille reaction.</p> <p>I. Uemura, H. Miyagawa and T. Ueno, <i>Tetrahedron</i>, 2002, 58, 2351.</p>	
<p>Attenol A</p> <p><i>Biological activity:</i> cytotoxic against P388 cells ($IC_{50} = 24 \mu\text{g/mL}$).</p> <p><i>Key steps:</i> (a) diastereoselective hydroboration; (b) lithium acetylide coupling; (c) Lindlar reduction; (d) Julia olefination.</p> <p>K. Araki, K. Suenaga, T. Sengoku and D. Uemura, <i>Tetrahedron</i>, 2002, 58, 1983.</p>	
<p>(-)-Callystatin A</p> <p><i>Biological activity:</i> cytotoxic against KB tumour cells ($IC_{50} = 0.01 \text{ ng/mL}$).</p> <p><i>Key steps:</i> (a) two stereoselective SAMP/RAMP hydrazone alkylations; (b) enzymatic stereoselective reduction of a 1,3-dioxocarboxylate.</p> <p>J. L. Vicario, A. Job, M. Wolberg, M. Müller and D. Enders, <i>Org. Lett.</i>, 2002, 4, 1023.</p>	
<p>(±)-CP-263,114</p> <p><i>Biological activity:</i> inhibitor of ras farnesyl transferase and squalene synthase.</p> <p><i>Key steps:</i> diastereoselective intramolecular Diels-Alder reaction.</p> <p>K. C. Nicolaou, J. Jung, W. H. Yoon, K. C. Fong, H.-S. Choi, Y. He, Y.-L. Zhong and P. S. Baran, <i>J. Am. Chem. Soc.</i>, 2002, 124, 2183.</p>	

<p>(+)-Fostriecin</p> <p><i>Biological activity:</i> (a) anticancer agent; (b) inhibits DNA topoisomerase II by a unique, non-DNA strand cleavage mechanism; (c) inhibitor of catalytic subunits of type 2A and 4 protein phosphatases (IC_{50} = 1.5 and 3 nM respectively); (d) ameliorates myocardial infarct size; (e) partially protects cardiomyocytes from ischemic injury.</p> <p><i>Key steps:</i> (a) ring-closing olefin metathesis to form the α,β-unsaturated lactone; (b) Suzuki–Miyaura cross-coupling.</p> <p>Y. K. Reddy and J. R. Falck, <i>Org. Lett.</i>, 2002, 4, 969.</p>	
<p>(-)-Fumiquinazoline H</p> <p><i>Biological activity:</i> antifungal activity.</p> <p><i>Key steps:</i> (a) formation of a piperazine ring from an amide and a quinazolinone; (b) stereoselective dimethyldioxirane oxidation; (c) SiO_2-mediated lactonisation.</p> <p>B. B. Snider and H. Zeng, <i>Org. Lett.</i>, 2002, 4, 1087.</p>	
<p>(-)-Isolaurallene</p> <p><i>Biological activity:</i> marine metabolite.</p> <p><i>Key steps:</i> (a) two asymmetric Evans alkylations; (b) asymmetric Brown allylation; (c) Ru-catalysed ring closing metathesis; (d) two asymmetric Sharpless epoxidations.</p> <p>M. T. Crimmins, K. A. Emmitte and A. L. Choy, <i>Tetrahedron</i>, 2002, 58, 1817.</p>	
<p>(-)-Isostegane</p> <p><i>Biological activity:</i> not reported.</p> <p><i>Key steps:</i> asymmetric Strecker reaction.</p> <p>D. Enders, V. Lausberg, G. Del Signore and O. M. Berner, <i>Synthesis</i>, 2002, 515.</p>	
<p>Khafrefungin</p> <p><i>Biological activity:</i> (a) antifungal agent; (b) inhibitor of IPC synthase.</p> <p><i>Key steps:</i> (a) Keck esterification; (b) Suzuki coupling.</p> <p>Y. Mori, M. Nakamura, T. Wakabayashi, K. Mori and S. Kobayashi, <i>Synlett</i>, 2002, 601.</p>	
<p>(±)-Merrilactone A</p> <p><i>Biological activity:</i> promotes neurite outgrowth in fetal rat cortical neurons at concentrations as low as 0.1–10 μmol.</p> <p><i>Key steps:</i> (a) free radical cyclisation; (b) Keck allylation.</p> <p>V. B. Birman and S. J. Danishefsky, <i>J. Am. Chem. Soc.</i>, 2002, 124, 2080.</p>	

<p>Peridinin</p> <p><i>Biological activity:</i> (a) carotenoid of an auxiliary light harvesting pigment in marine photosynthesis; (b) causes red tides.</p> <p><i>Key steps:</i> (a) stereoselective Pd-catalysed intramolecular lactonisation of a conjugated ethynylcarboxylic acid; (b) Sharpless asymmetric epoxidation; (c) Sonogashira cross-coupling; (d) Julia-Kocienski olefination.</p> <p>N. Furuichi, H. Hara, T. Osaki, H. Mori and S. Katsumura, <i>Angew. Chem., Int. Ed.</i>, 2002, 41, 1023.</p>	
<p>PGE₂U_m</p> <p><i>Biological activity:</i> Major urinary metabolite of prostaglandin E₂.</p> <p><i>Key steps:</i> (a) kinetic opening of TBS-protected bicyclic ketone with thiophenol; (b) Mislow rearrangement.</p> <p>D. F. Taber and D. Teng, <i>J. Org. Chem.</i>, 2002, 67, 1607.</p>	
<p>cis-Solamin</p> <p><i>Biological activity:</i> not reported.</p> <p><i>Key steps:</i> (a) TBHP-VO(acac)₂ diastereoselective epoxidation ; (b) Sonogashira cross coupling.</p> <p>H. Makabe, Y. Hattori, A. Tanaka and T. Oritani, <i>Org. Lett.</i>, 2002, 4, 1083.</p>	
<p>(+)-Vinblastine</p> <p><i>Biological activity:</i> cancer chemotherapy agent.</p> <p><i>Key steps:</i> (a) indole synthesis via a radical cyclisation of an <i>o</i>-alkenylthioanilide; (b) macrocyclisation to yield an eleven-membered-ring.</p> <p>S. Yokoshima, T. Ueda, S. Kobayashi, A. Sato, T. Kuboyama, H. Tokuyama and T. Fukuyama, <i>J. Am. Chem. Soc.</i>, 2002, 124, 2137.</p>	
<p>(-)-VM55599</p> <p><i>Biological activity:</i> not reported.</p> <p><i>Key steps:</i> intramolecular [4+2] Diels-Alder cycloaddition.</p> <p>J. F. Sanz-Cervera and R. M. Williams, <i>J. Am. Chem. Soc.</i>, 2002, 124, 2556.</p>	
<p>α-Zearalenol</p> <p><i>Biological activity:</i> (a) hormonal activity; (b) anabolic activity.</p> <p><i>Key steps:</i> (a) stereoselective carbonyl reduction of an allyl ligand on a π-allyltricarbonyliron lactone complex; (b) Mukaiyama macrolactonisation.</p> <p>S. Burckhardt and S. V. Ley, <i>J. Chem. Soc., Perkin Trans. 1</i>, 2002, 874.</p>	