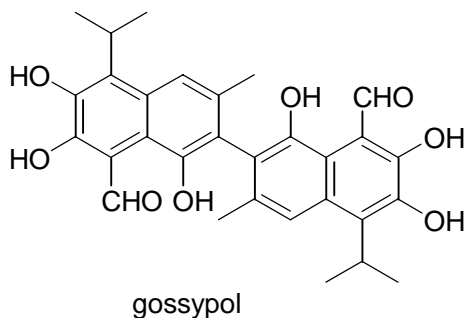
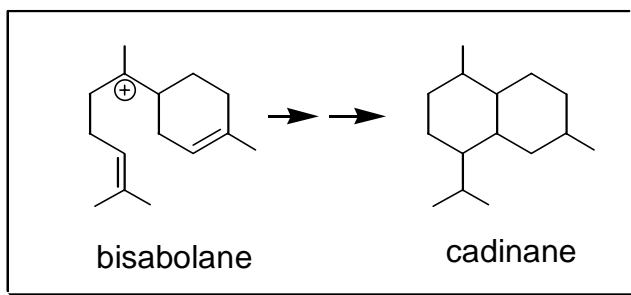


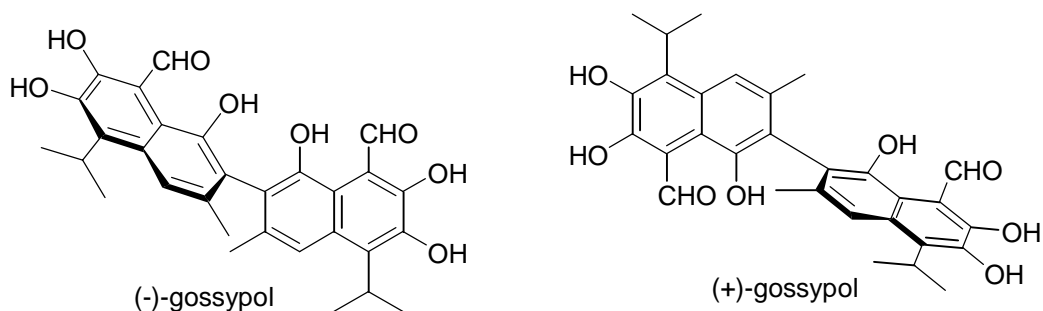
Gossypol



Gossypol is a dimeric or bis-naphthalene natural product isolated from the seeds of cotton plants (various *Gossypium* species). The naphthalene rings, however, are derived from sesquiterpenes of the cadinane family. The cadinanes are formed in the biogenetic cascade from the bisabolane intermediate by a series of putative 1,2-shifts and cyclization.



The interest in gossypol derives from its activity as a contraceptive in human males. It has been shown to affect the maturation and motility of sperm, and it inactivates the enzymes required for the sperm to fertilize the ova. Gossypol has been used clinically in China and the contraceptive effect has been shown to be reversible in short term usage. Gossypol also has been found to have antiviral, antiherpes, antipsoriasis, antikeratitis, and antineoplastic activity.



Gossypol exists as two atropisomers due to restricted rotation about the biaryl bond. The contraceptive effect appears to be associated with the (-)-isomer, while toxic effects (cardiac toxicity in cattle) appear to be associated with the (+)-isomer.