

ORGANIC NAMED REACTION ^{1.}

22/09/2020 DEGREE-III (H), PAPER-VII Lecture-8

TOPIC :-DIEL'S-ALDER REACTION

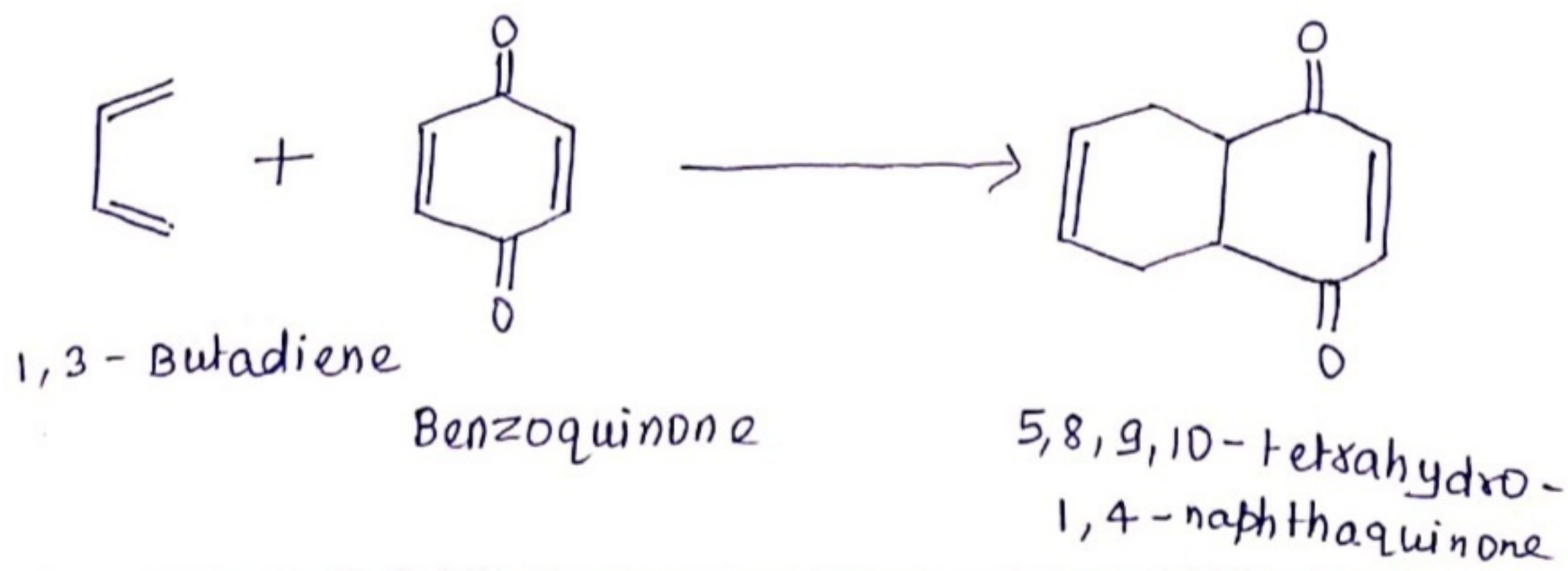
(Continued & Completed)

APPLICATION CONTINUED..

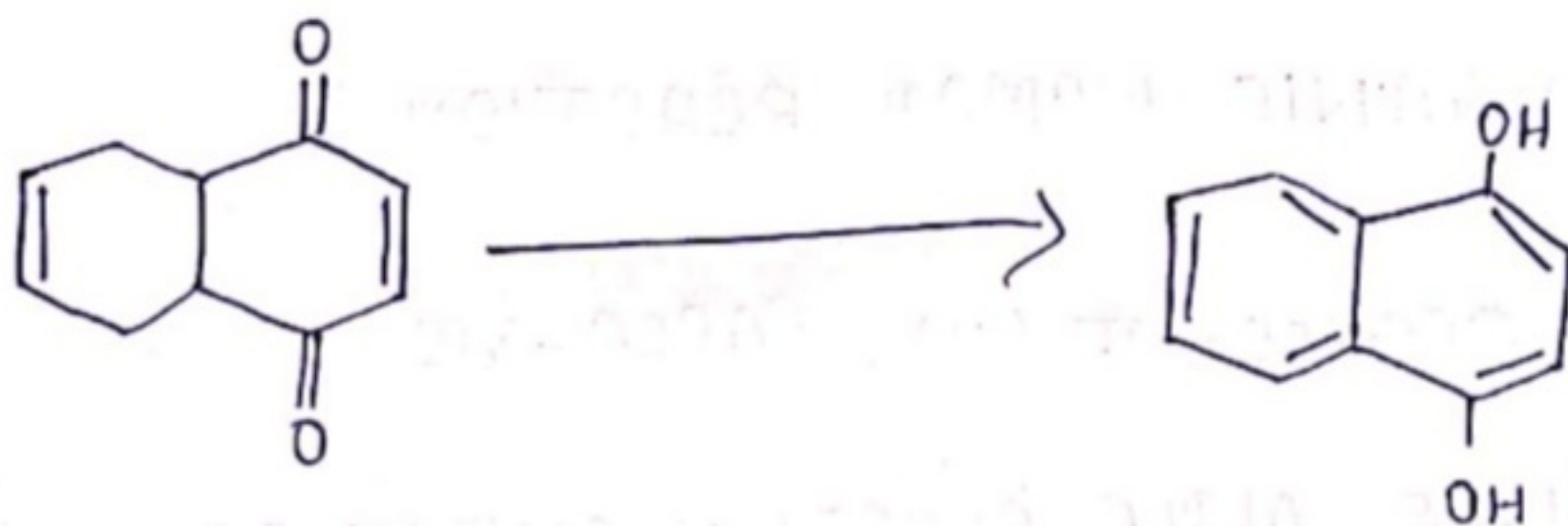
3. Synthesis of natural products

* The applicability of the Diel's -Alder reaction to a variety of compounds along with its stereospecificity imparts it a great importance for the synthesis of various of various natural products, viz., polycyclic hydrocarbons, α -terpineol, Camphene, morphine, sesesepine, cholesterol, Oestrone etc.

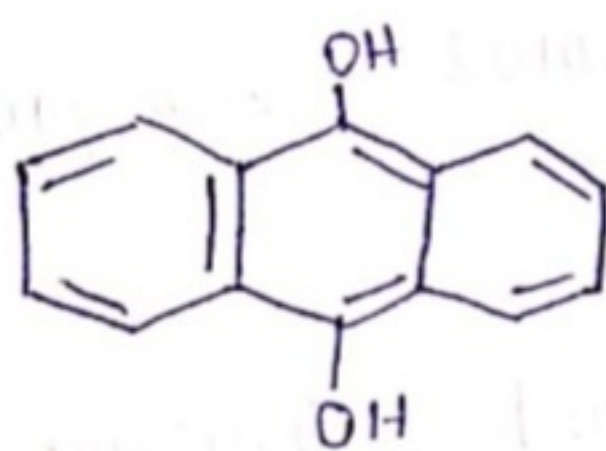
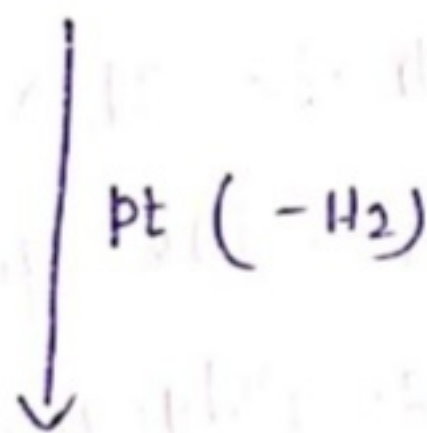
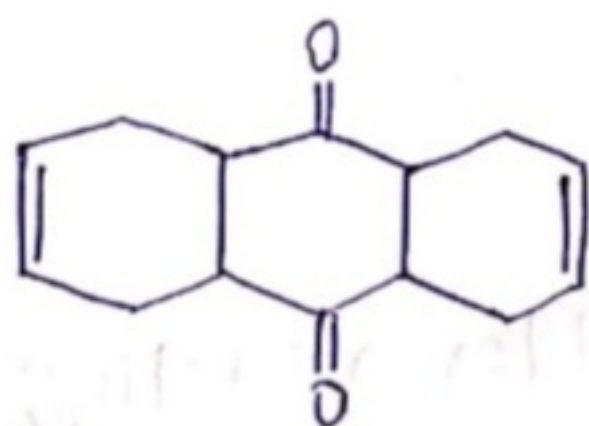
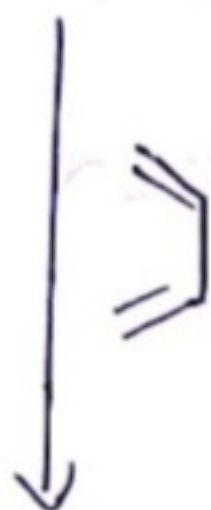
a) Synthesis of naphthalene and anthracene derivatives.



2.

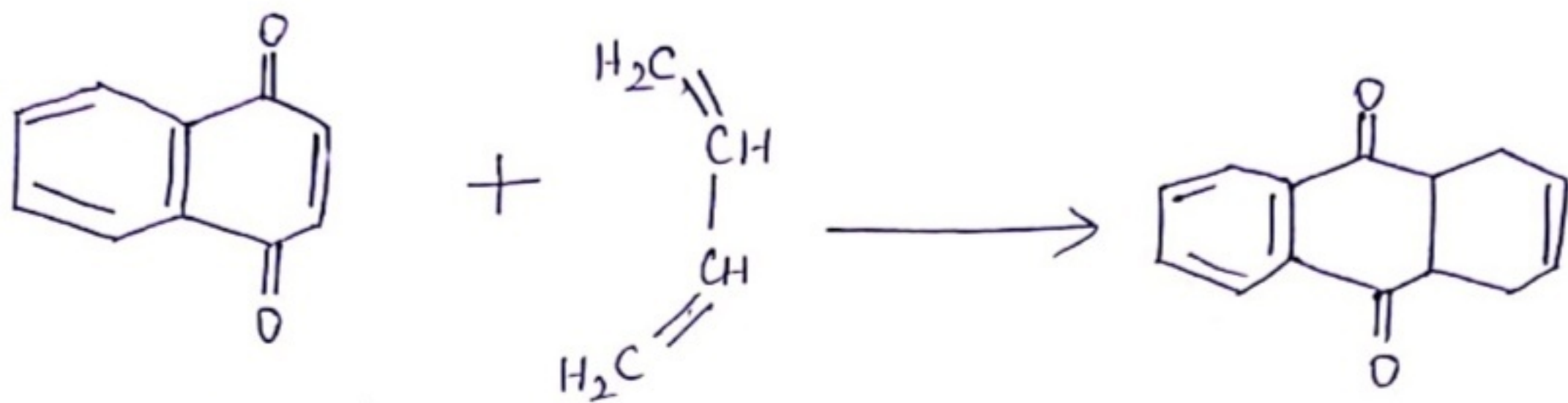


1,4 - Dihydroxy naphthalene

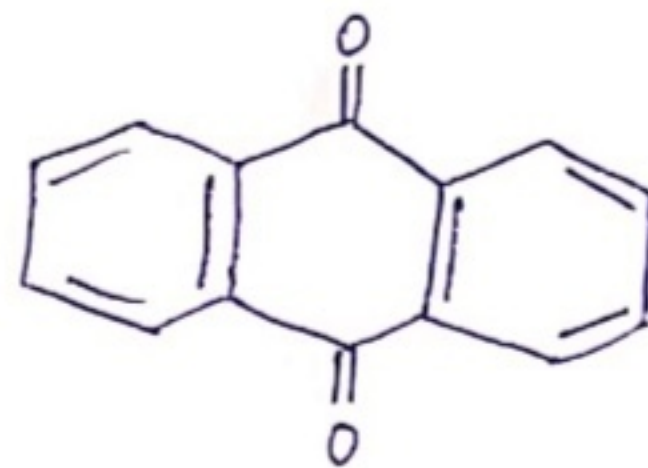
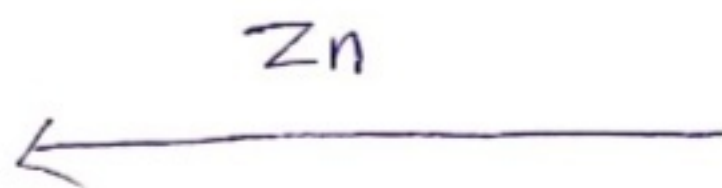
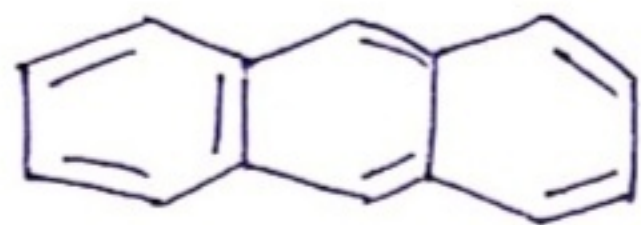
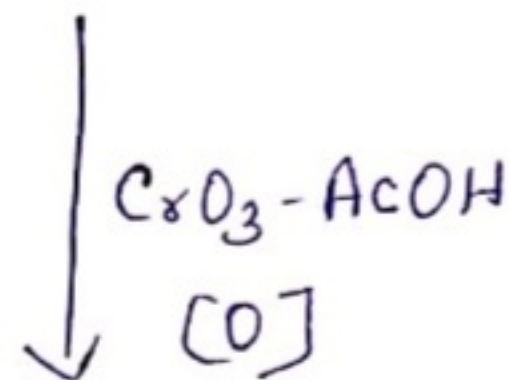


Thus condensation of 1 mole of benzoquinone with 1 mole of 1,3-butadiene gives naphthalene derivatives while 1 mole of benzoquinone when condensed with 2 moles of butadiene gives anthracene derivatives.

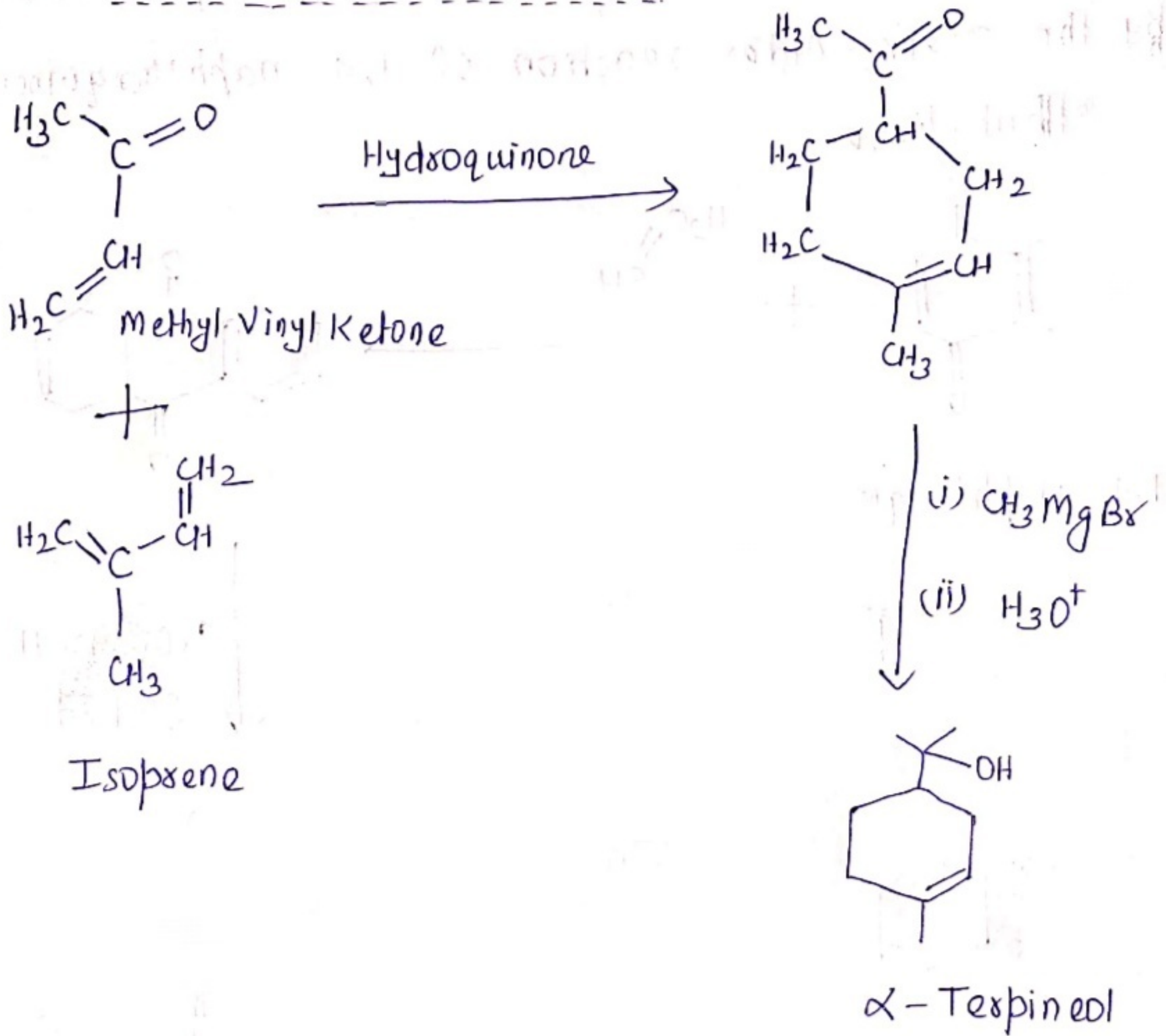
* Anthracene & its derivatives can also be prepared by the Diel's-Alder reaction of 1,4-naphthaquinone with butadiene.



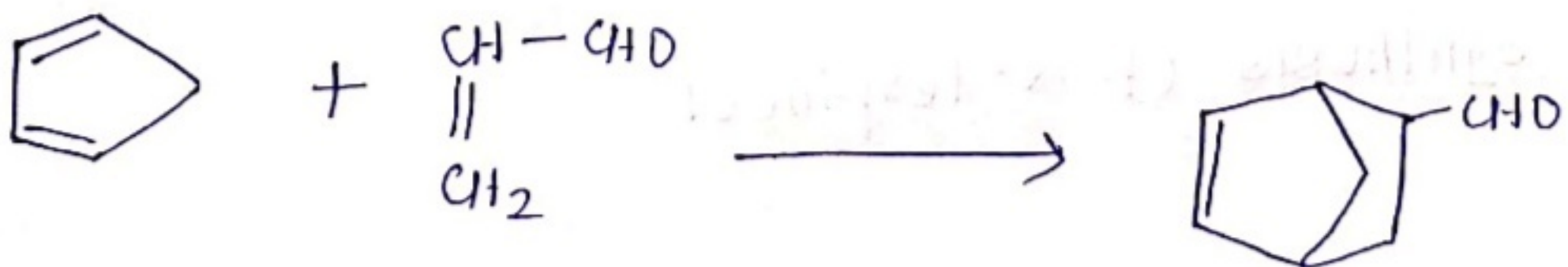
1,4 - Naphthaquinone



Anthraquinone

b. Synthesis of α -terpineol

c. Synthesis of Camphene: (Diels Alder 1928-1931)



DIEL'S-ALDER REACTION

~Completed~

By-Dr.Rinky