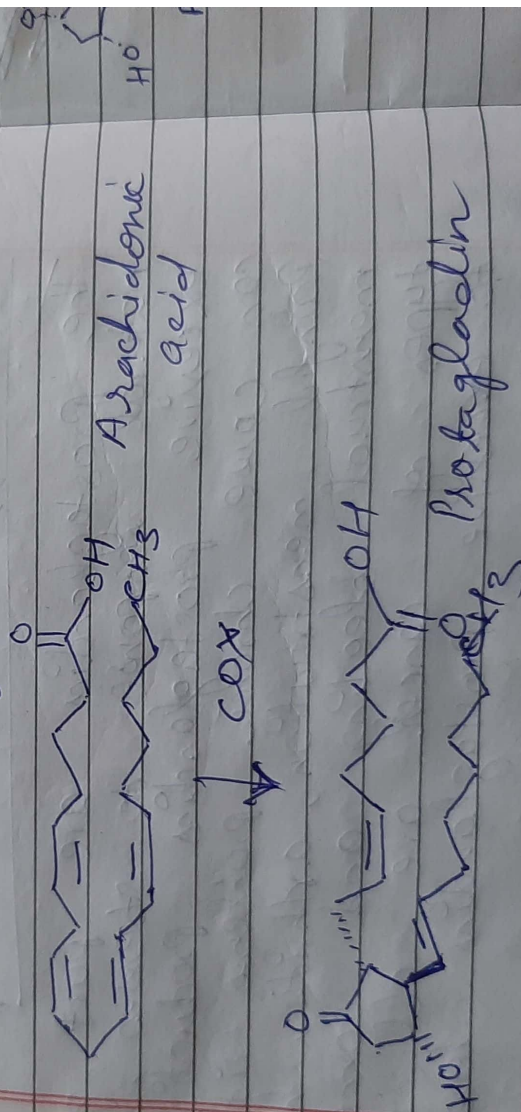


* Biosynthesis of PGE₂

In cells, arachidonic acid is transformed into PGE₂ via cyclooxygenase (COX) enzymes and terminal oxygenase (Prostaglandin G synthase (PGES)). Accumulating data suggest that the interaction of various enzymes in the PGE₂ synthetic pathway is complex and tightly regulated, which is as follows

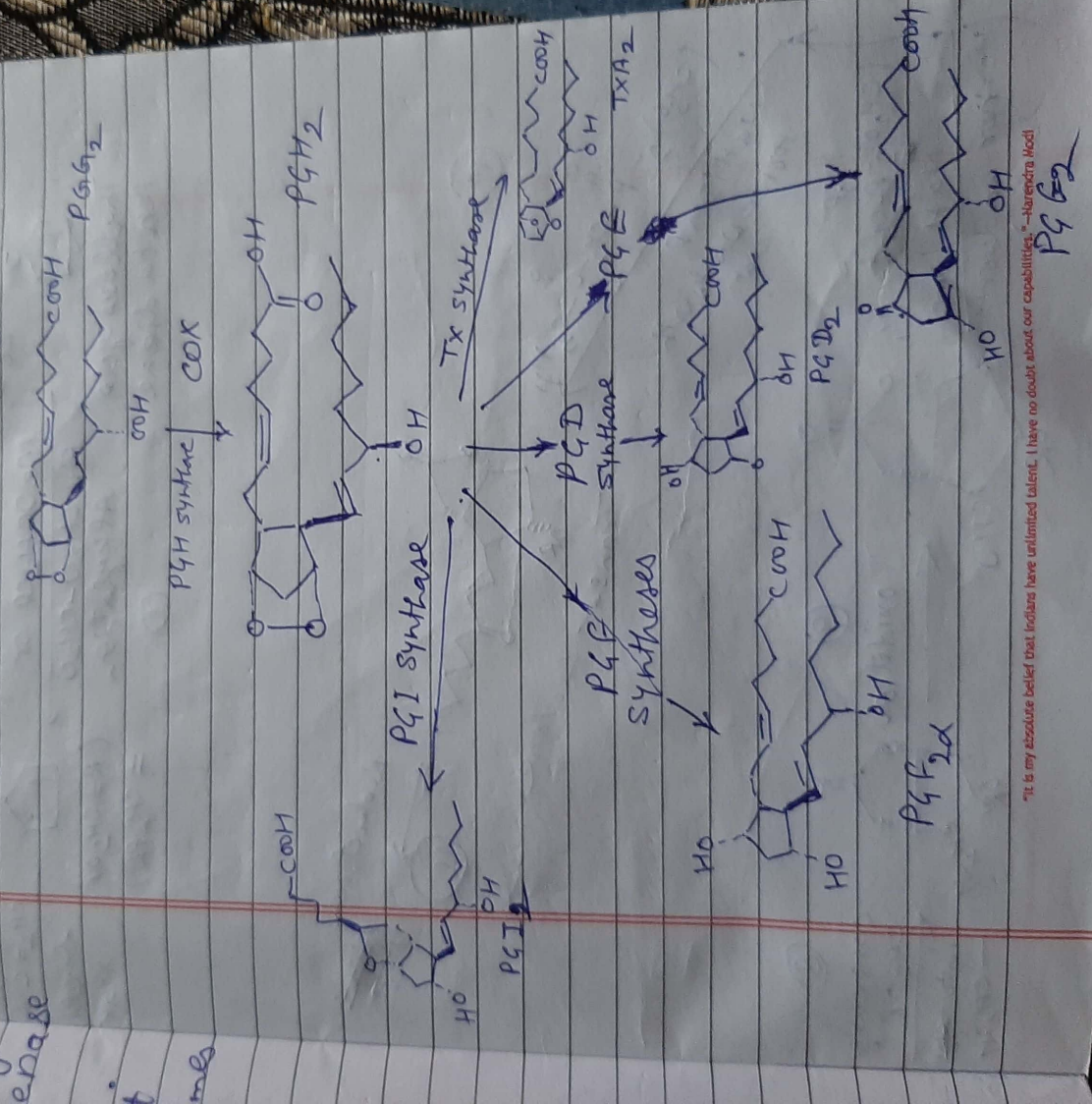


The above biosynthesis pathway as given below (~~is shown~~)

"I sincerely believe that Indians have the ability to compete with the best in the world." - Dhirubhai Ambani

Arachidonic acid

↓ COX (cyclooxygenase)



"It is my absolute belief that Indians have unlimited talent. I have no doubt about our capabilities." - Narendra Modi

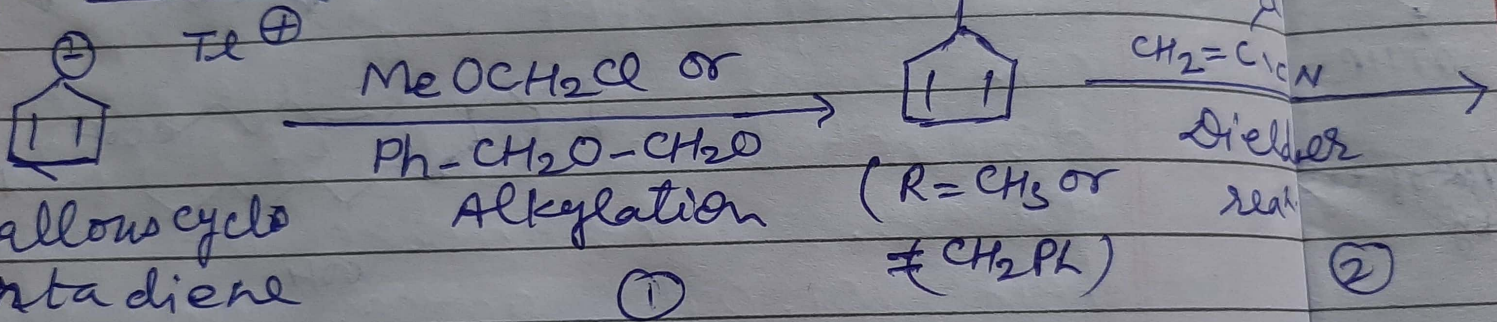
PGG₂

Date 20/04/2020

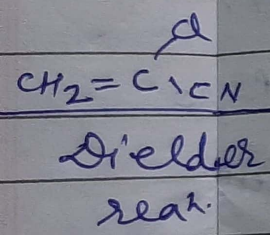
Page No.: _____

Synthesis :- PGE₁, E₂, F_{1α}, F_{2α}

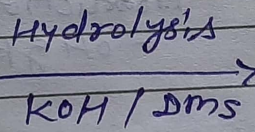
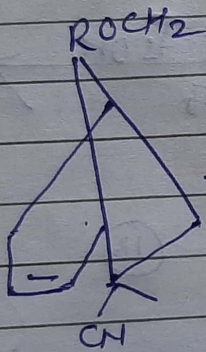
By Corey →



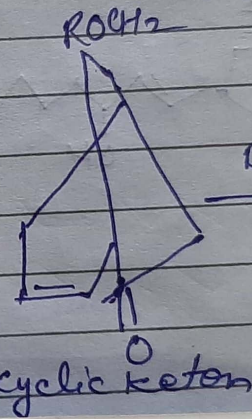
Thallous cyclo
penta diene



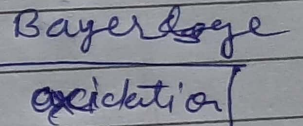
(2)



(3)



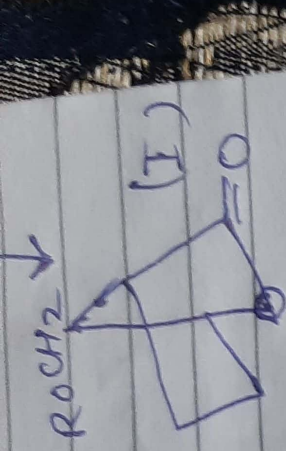
cyclic ketone



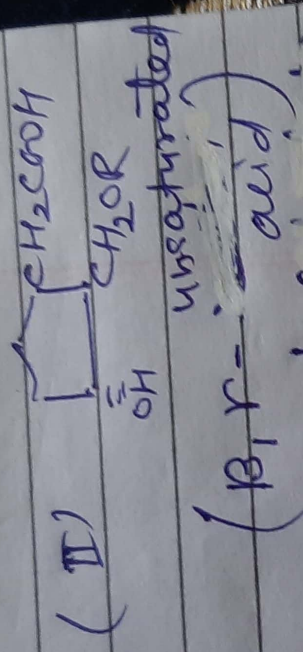
(4)



cyclic ketone

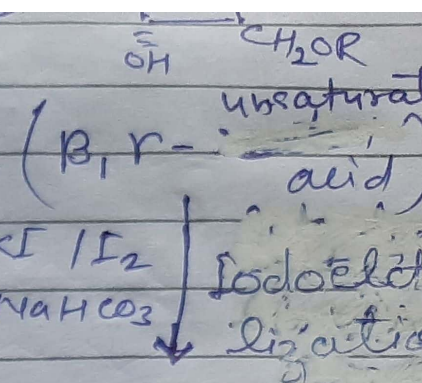


(5) \downarrow NaOH
Hydrolysis



\downarrow KI / I₂
NaHCO₃

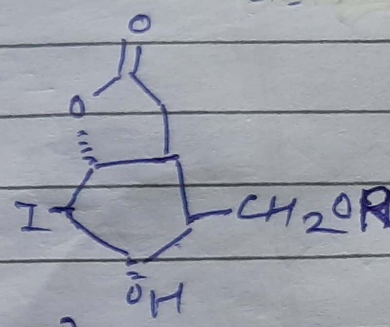
Iodoform
Displacement



(6)

Protecting
of OH gb

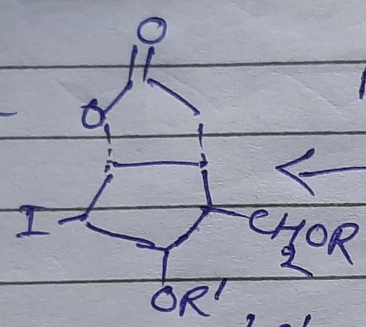
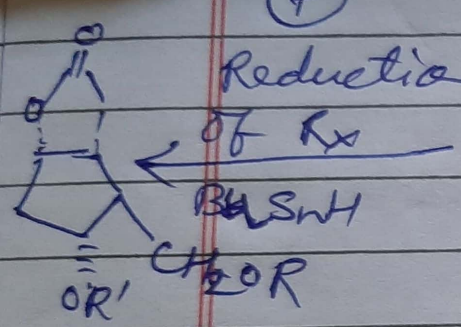
Ac₂O / Py



(7)

Reduction
of K₂

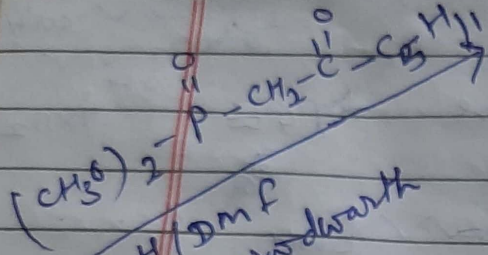
BH₃SNH



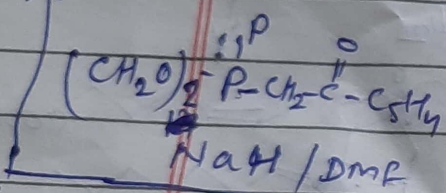
(R' = CH₂CO or THP)

"It is my absolute belief that Indians have unlimited talent. I have no doubt about our capabilities." - Narendra Modi

(10)

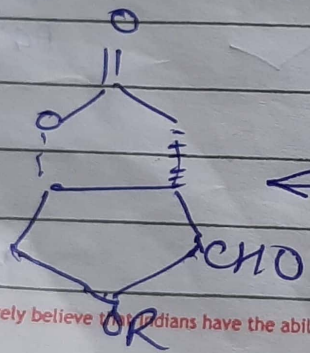


NaH / DMF
Horner-Wadsworth
rean.



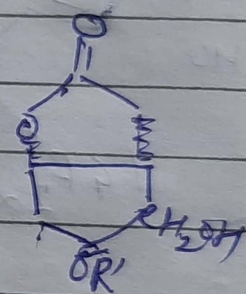
NaH / DMF

(Horner-Wadsworth
rean)



(9)

oxidation



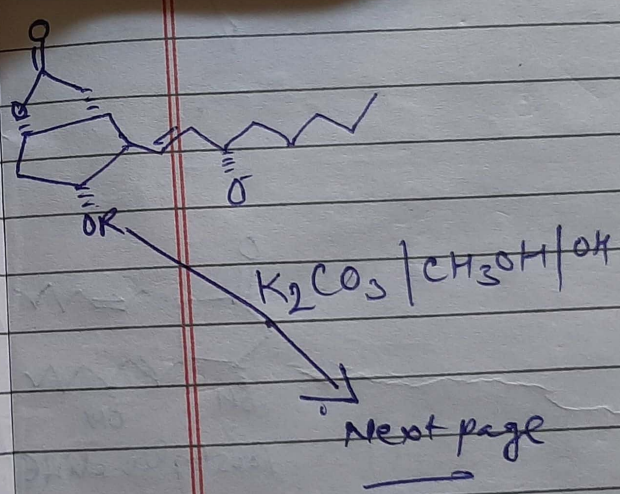
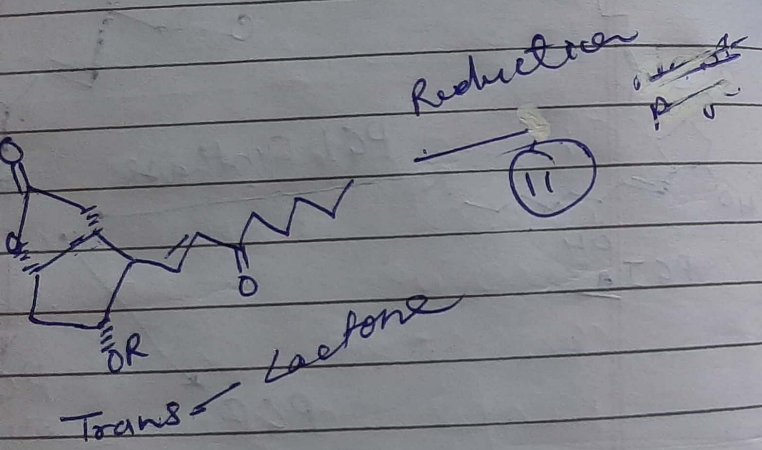
(8)

converting
CH2OR
into
-CH2OH

"I sincerely believe that Indians have the ability to compete with the best in the world." - Dhirubhai Ambani

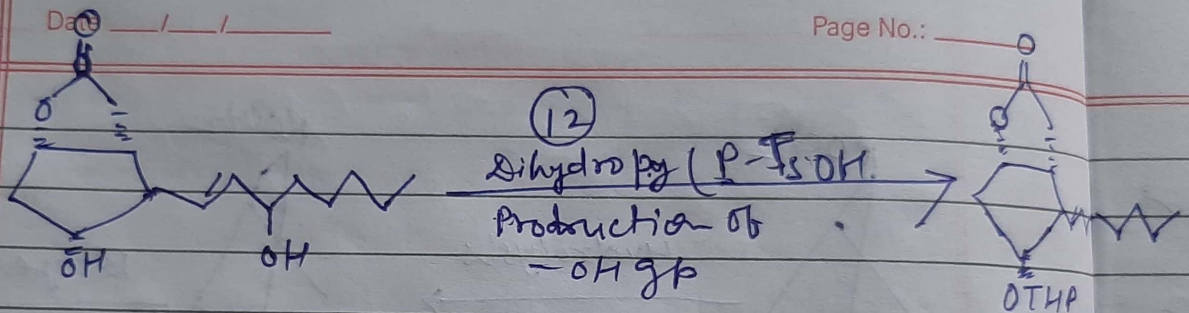
1. PGE₁,
ey →
MeOCH₂O
Ph-CH₂O
Alkyl

lysis →
DMS
cyclic k

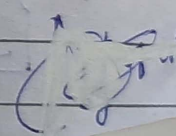


Date: ___/___/___

Page No.: ___



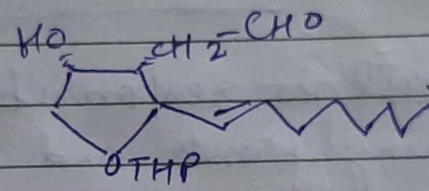
(13)



(13)

(14)

Redⁿ of ester
d-hydroxy alkyl



condensation of aldehyde

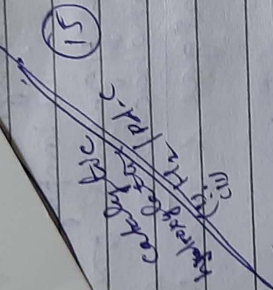
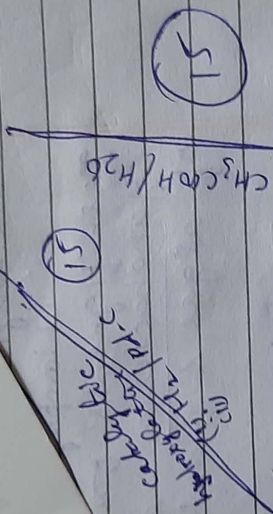
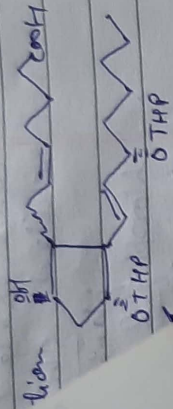
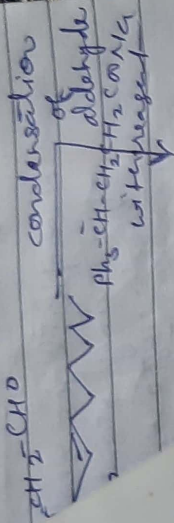
Ph₃C-CH₂-CH₂-CHO

with reagent



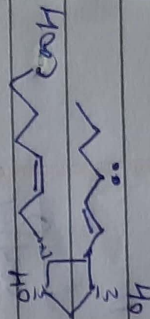
Prosta

(14)



Prostaglandin F_{1α}

(III)



Prostaglandin F_{2α}

(IV)

