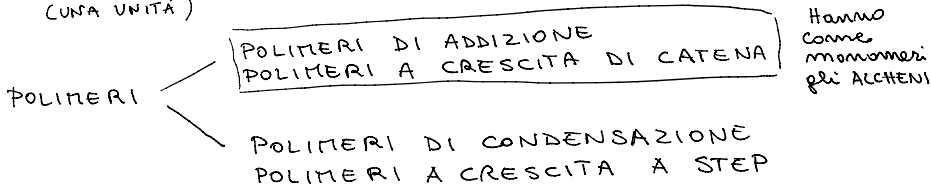
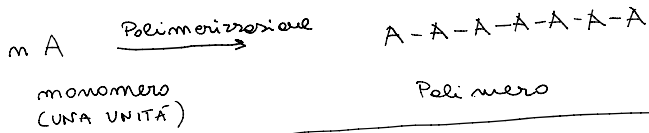
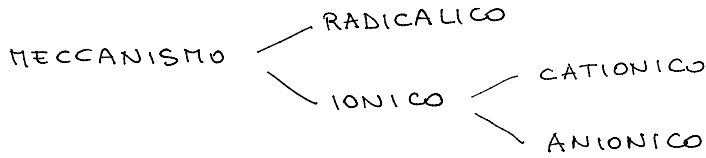


POLIMERI (MOLTE UNITÀ)



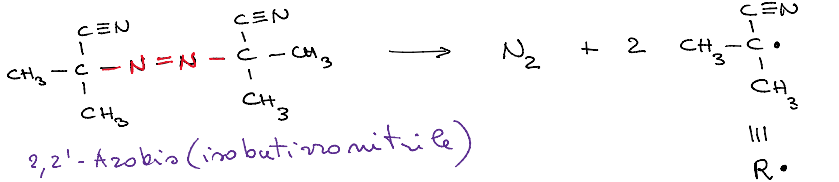
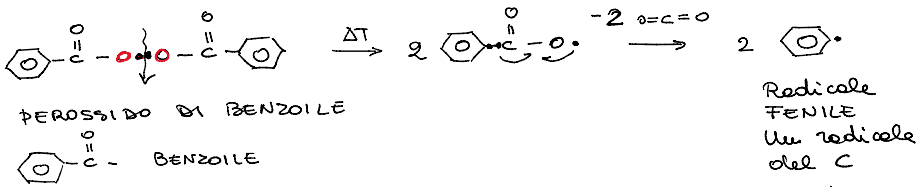
POLIMERI DI ADDIZIONE



MECCANISMO RADICALICO

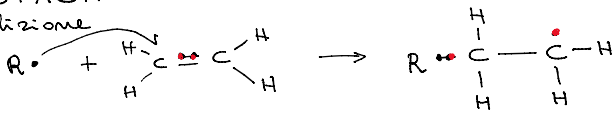
Esempio: poli etilene

INIZIAZIONE Perossido o un Azo composto (R-O-O-R)

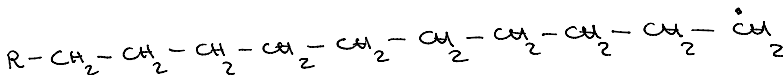
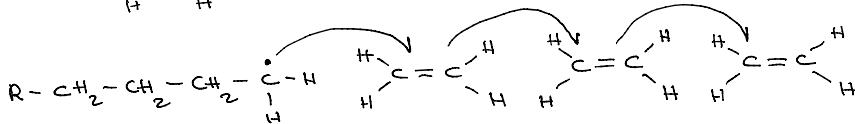
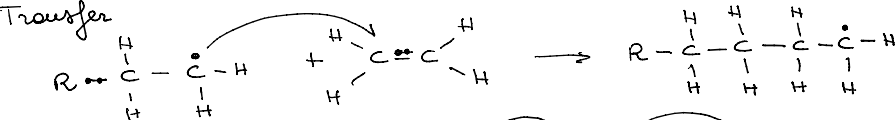


PROPAGAZIONE

1. Addizione



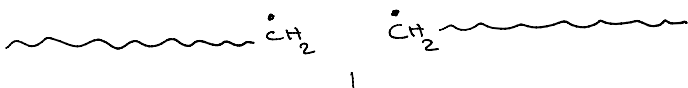
2. Transfer

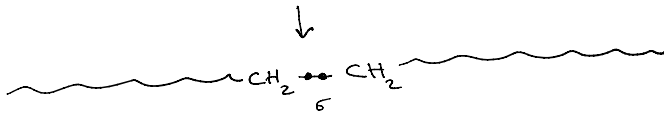


↑
Teste radicali reattive

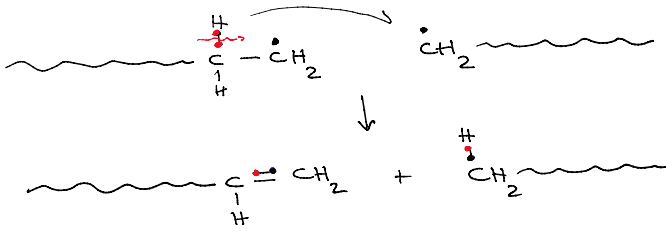
TERMINAZIONE

1. COMBINAZIONE





2. DISPROPORZIONE



Per far prevalere la proporzione nella Terminatione
 lavorare con largo eccesso di alchene.

MECCANISMO CATIONICO

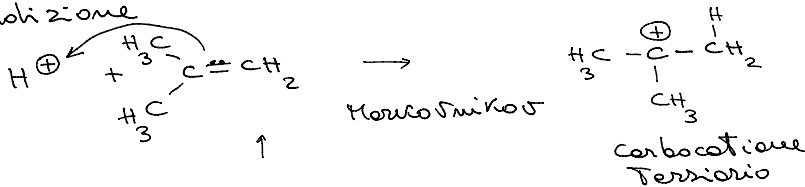
INIZIAZIONE

Si utilizza un acido forte oppure un acido
 di Lewis (AlCl_3 , BF_3) (H_2SO_4)

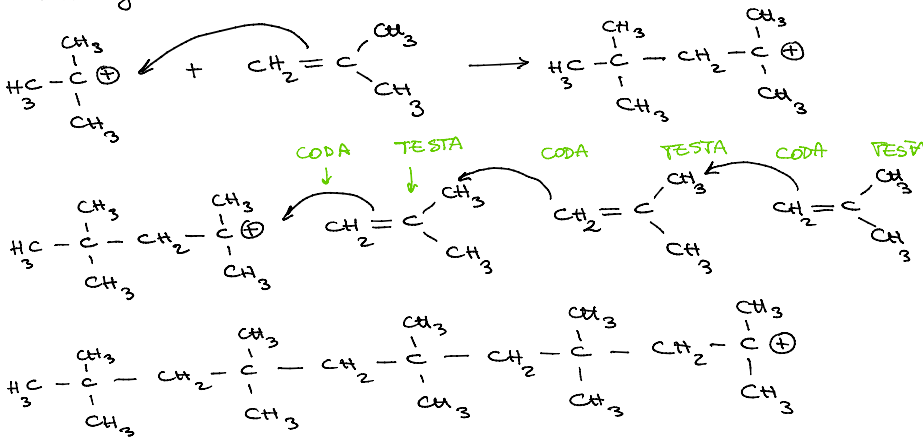


PROPAGAZIONE

Adizione

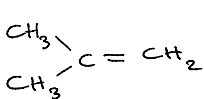
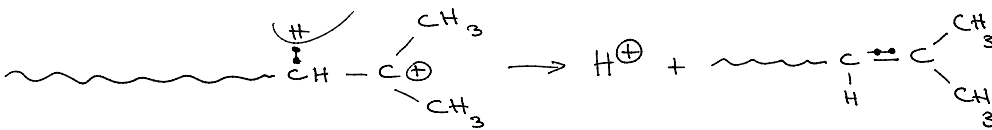


Transfer

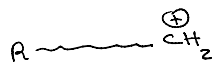
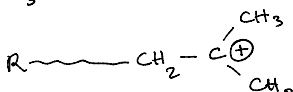
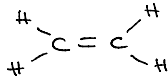


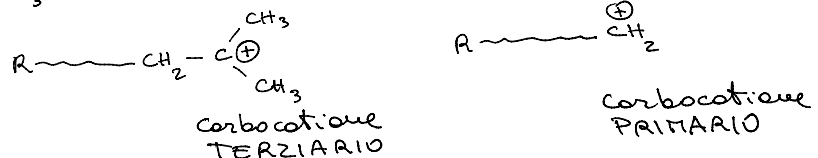
Inserimento ordinato TESTA-CODA dovuto
 alle formazioni del carbocatione più
 stabile

TERMINAZIONE



oppure



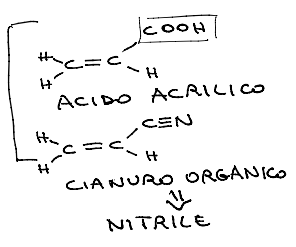
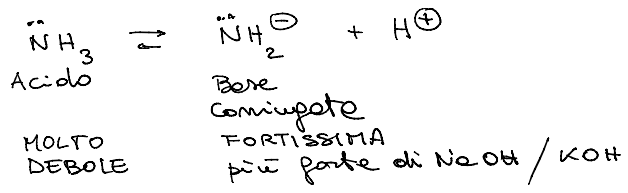
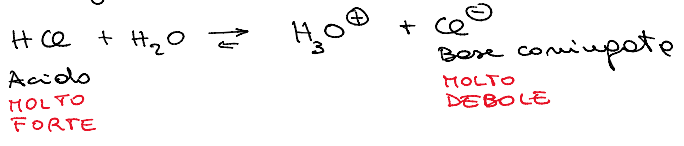


Gli alcheni adatti a questo meccanismo possiedono gruppi elettron-donatori (come i gruppi metilici)

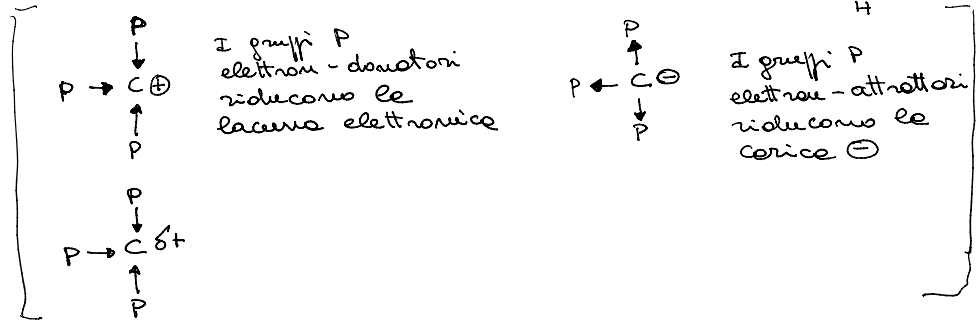
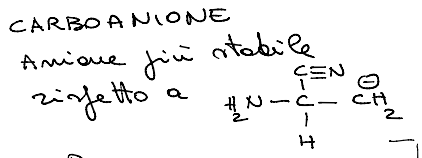
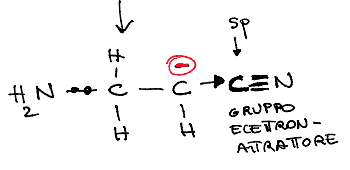
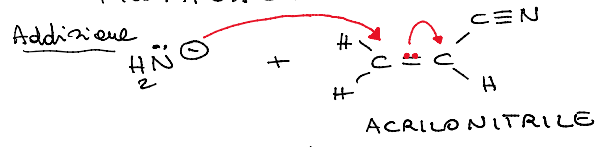
MECCANISMO ANIONICO

INIZIAZIONE

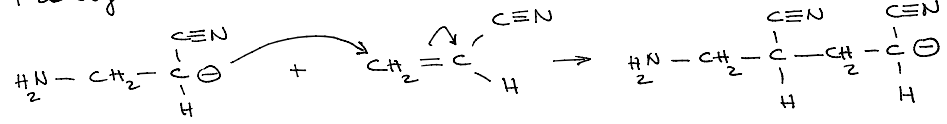
Base forte: $\ominus NH_2$ IONE AMMIDURO (o AMMONIURO)



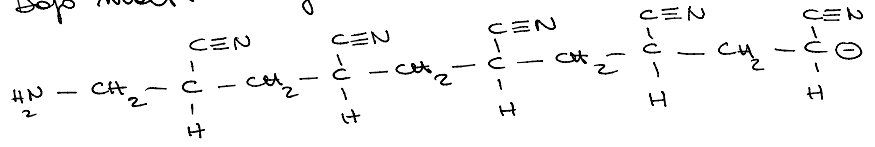
PROPAGAZIONE



Transfer

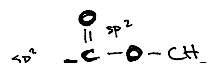


Dopo molti transfer



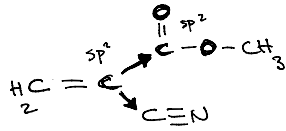
Immersamento ordinato TESTA-CODA

NON ESISTE FASE DI TERMINAZIONE \Rightarrow POLIMERI VIVENTI



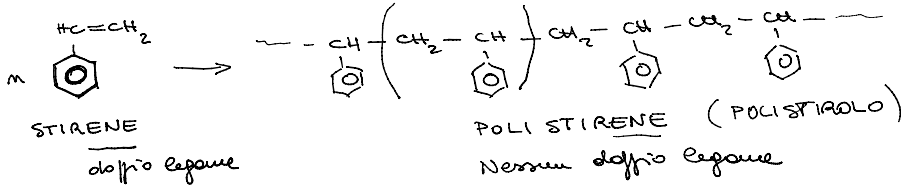
NON ESISTE TRA ...

VIVERE...



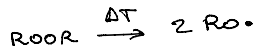
d- CIANOACRILATO DI METILE \Rightarrow SUPER COLLE

Polimerizzazione Radicalica dello Stirene

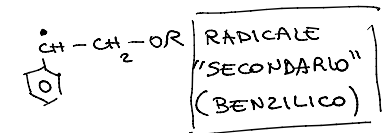
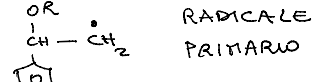
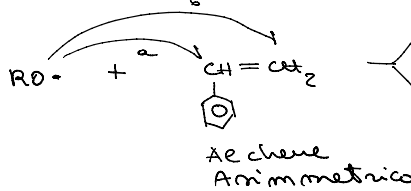


Unità RIPETITIVA
quello che "resta"
del monomero
quando viene
inserito in
catene

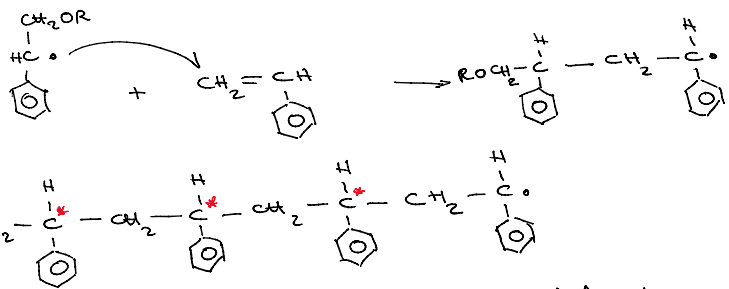
Mecanismo
Iniziazione
Propagazione



Addizione



Transfer

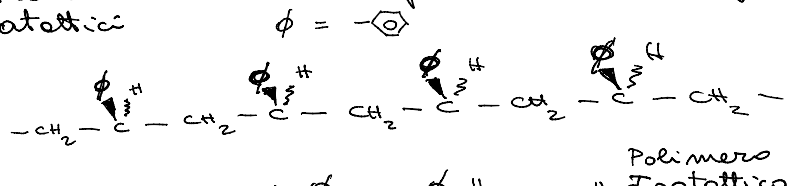


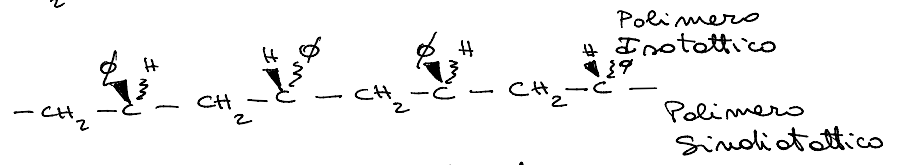
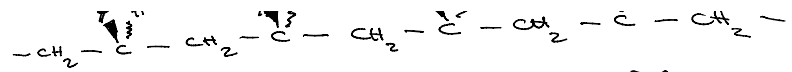
Immerimento ordinato TESTA - CODA per
formare i radicali più stabili!

POLIMERI STEREOREGOLARI \rightarrow POLIMERI ISOTATTICI
I C* sono tutti della stessa
configurazione
R-R-R-R-
S-S-S-S-
 \rightarrow POLIMERI SINDIOTATTICI
I C* hanno configurazioni
alterate
R-S-R-S-R-S

I polimeri non stereoregolari si dicono
POLIMERI ATATTICI
Distribuzione disordinata
delle configurazioni
R-R-S-R-S-S-S-R-

I polimeri stereoregolari hanno temperature di
transizione vetrosa più elevate dei polimeri
atattici





La distribuzione spaziale ordinata dei gruppi costituenti (ϕ) nei polimeri stereoregolarmente permette un buon impaccamento delle diverse catene polimeriche