



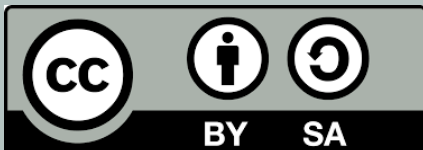
# ΠΑΝΕΠΙΣΤΗΜΙΟ ΙΩΑΝΝΙΝΩΝ ΑΝΟΙΚΤΑ ΑΚΑΔΗΜΑΪΚΑ ΜΑΘΗΜΑΤΑ



## Οργανική Χημεία II

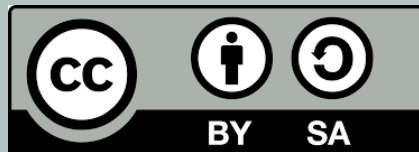
### Καρβονυλικές ενώσεις

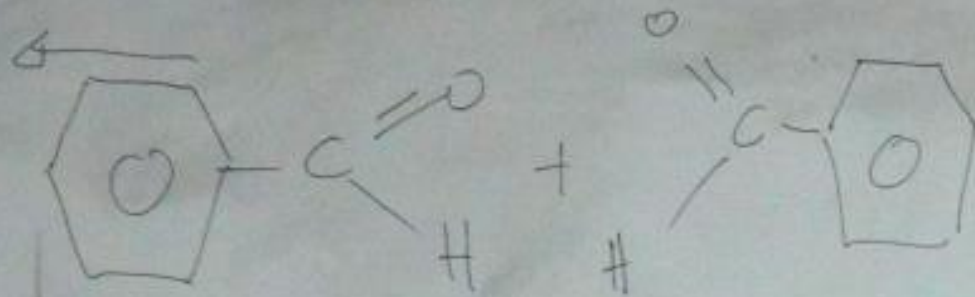
Διδάσκων: Καθηγητής Γεώργιος Πηλίδης



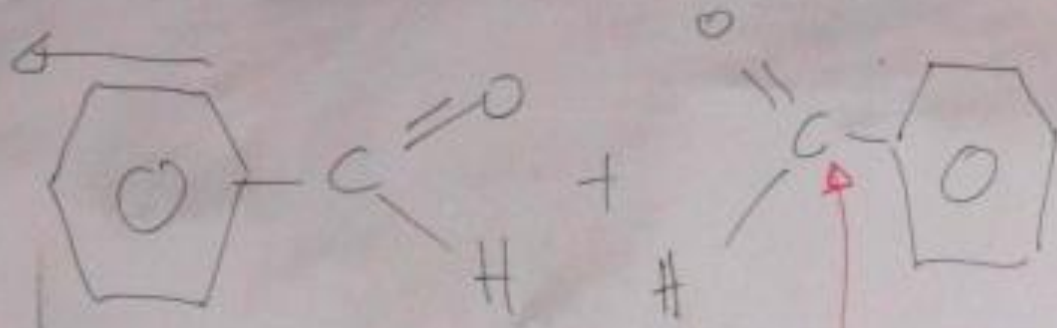
# Άδειες Χρήσης

- Το παρόν εκπαιδευτικό υλικό υπόκειται σε άδειες χρήσης Creative Commons.
- Για εκπαιδευτικό υλικό, όπως εικόνες, που υπόκειται σε άλλου τύπου άδειας χρήσης, η άδεια χρήσης αναφέρεται ρητώς.

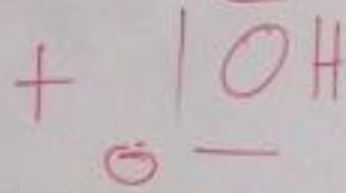


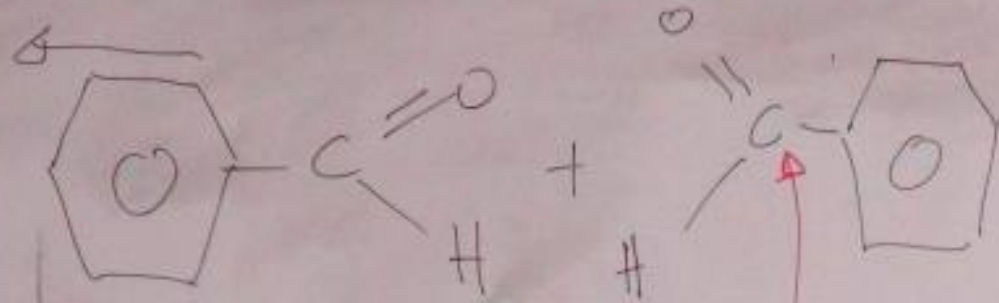


βενζαλδεΐδη

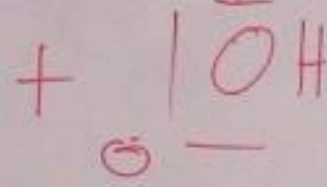


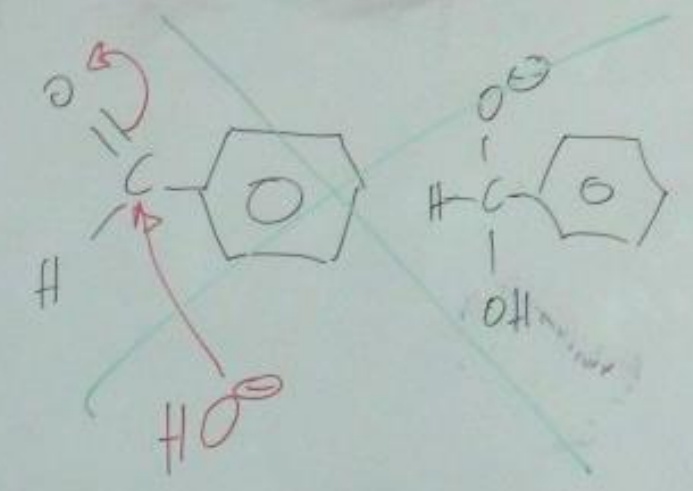
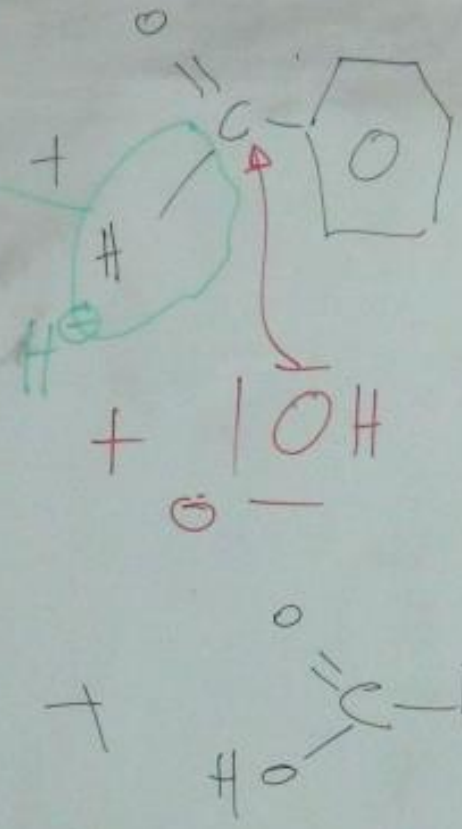
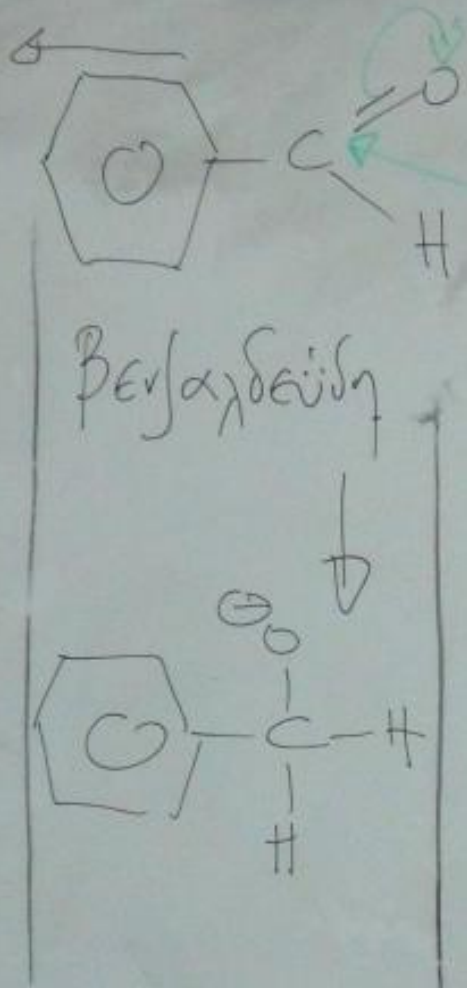
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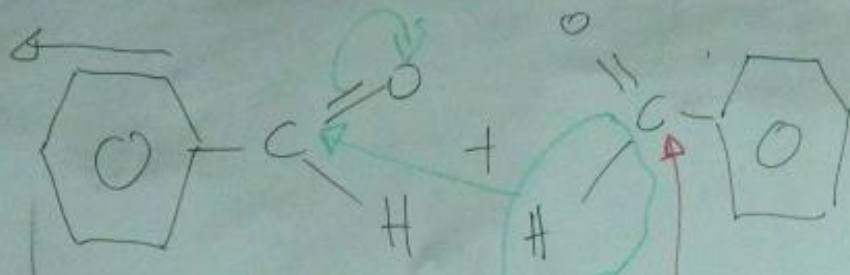




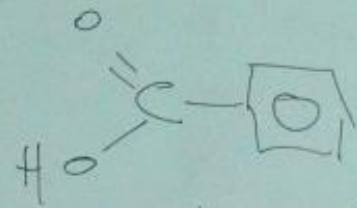
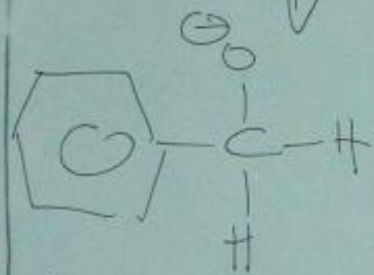
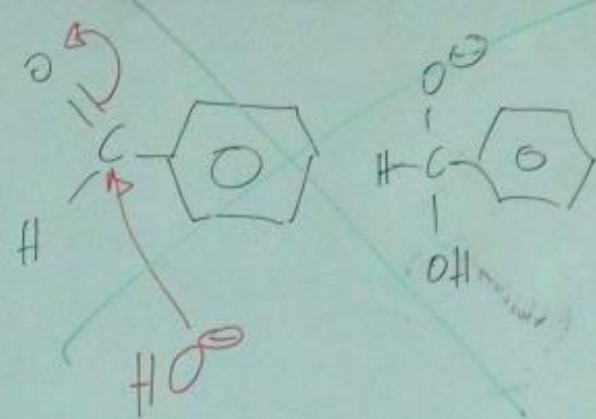
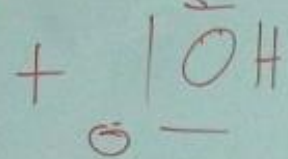
βενζαλδεΐδη





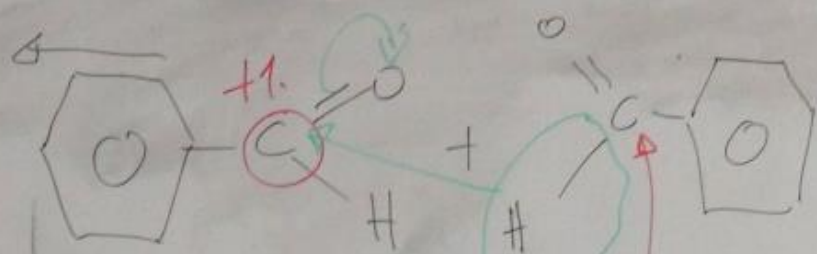


Βενζαλδεΐδη

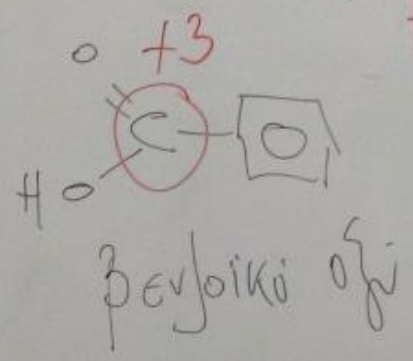
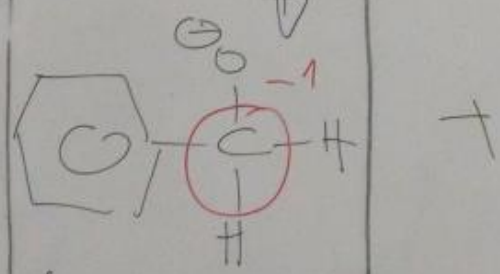
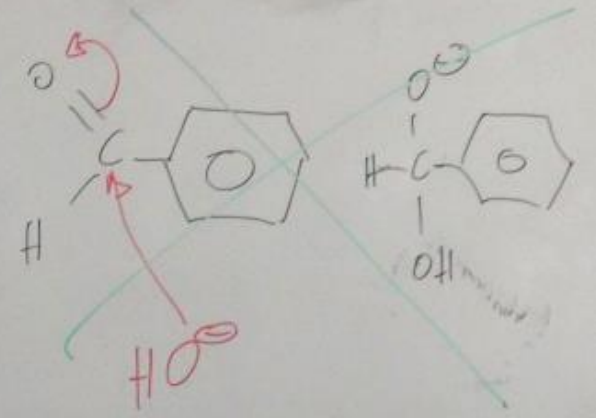
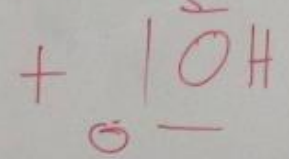


βενζοϊκό οξύ

ανίου βενζοϊκού οξέος



βενζαλδεΐδη



βενζοϊκό οξύ

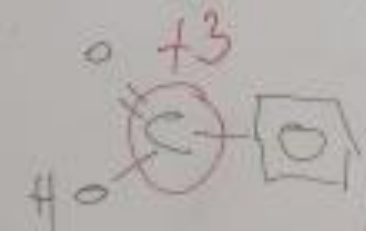
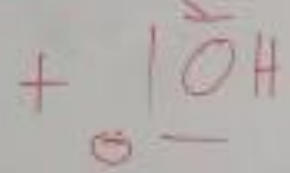
ανιον βενζοϊκής οξέως



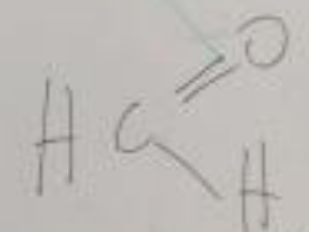
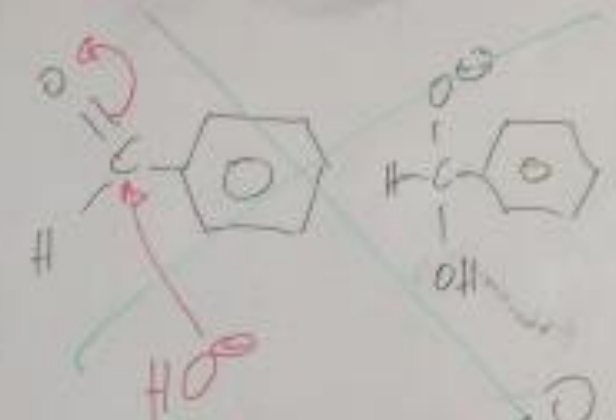
# CANNIZZARO



βενζαλδεΐδη



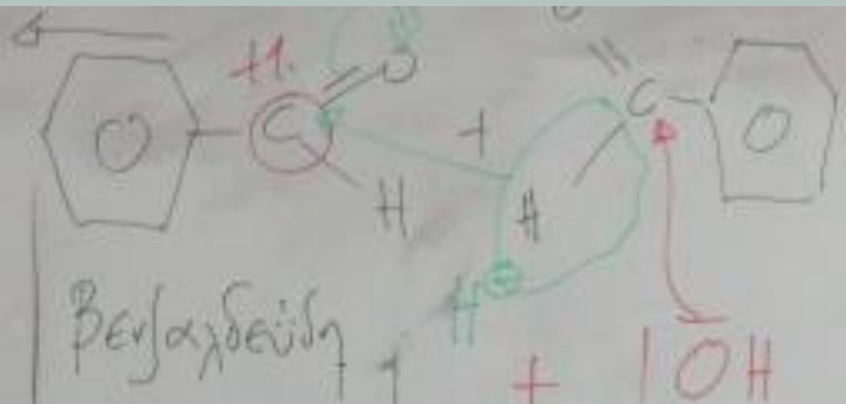
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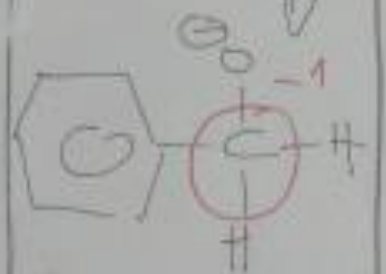
φάρμαλδεΐδη

Σταρωμένη  
Cannizzaro

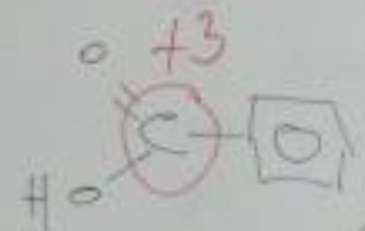
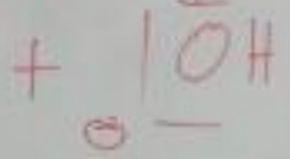
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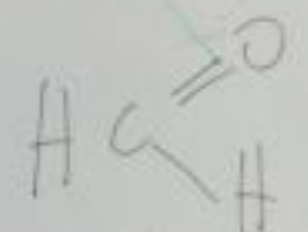
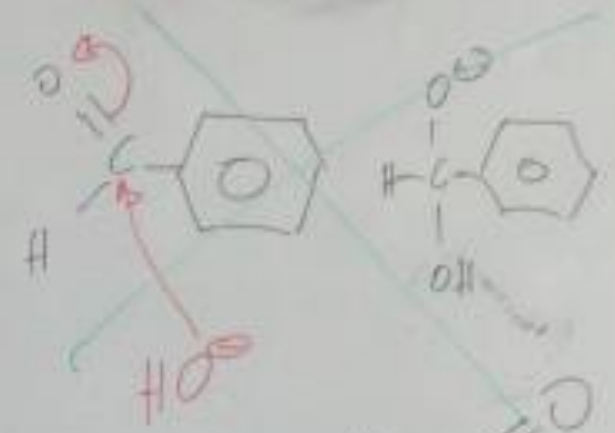
Βενζαλδεΐδη



Ανιόν Βενζοϊκής οξέως

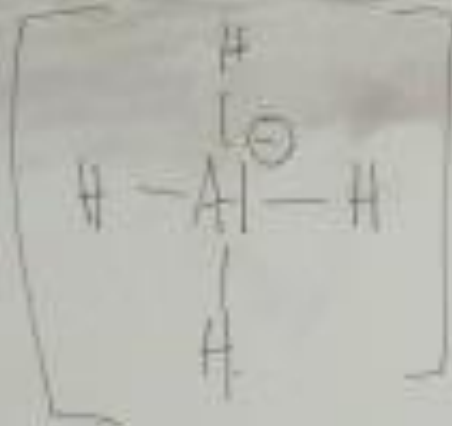
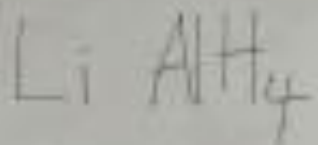


Βενζοϊκό οξύ



Φορμαλδεΐδη  
 Σταφυλική  
 Camizaro

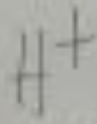
Υδρίδα



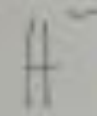
Η είναι αλκάλια



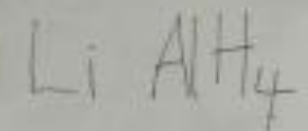
Πρωτόνια



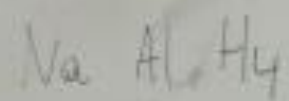
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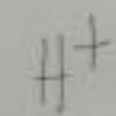
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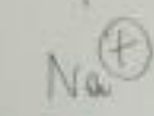
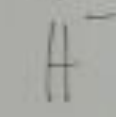
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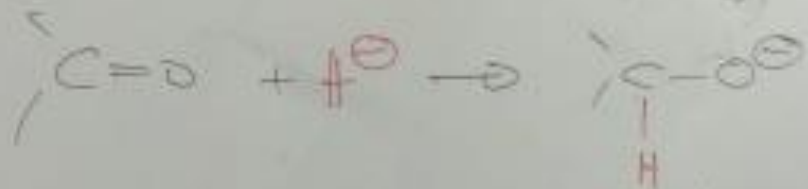
Πρωτόνια



Υδρίδα



μεταφέρει ως H<sup>-</sup>

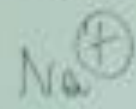
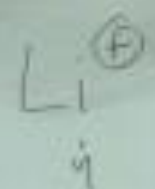
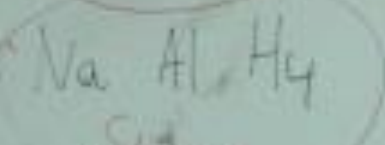


αμφιπρωτονική κατάσταση

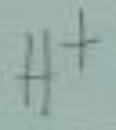
Υδρίδια



H είναι απόλυτα



Πρωτόνια

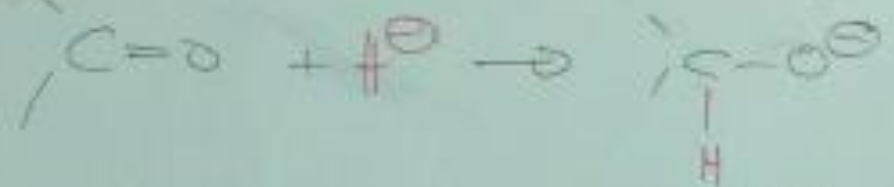


απόλυτα  
συνεπώς

Υδρίδια



μετατρέπεται ως  $\text{H}^-$



αμφιπρόσημο  
καρβονύλιο είναι

Υδρίδα

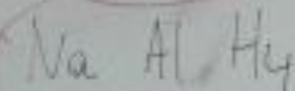
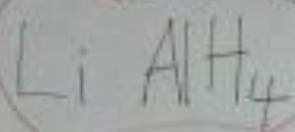
H είναι αρνητικά

Πρωτόνια

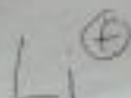
Υδρίδα

απόλυτα

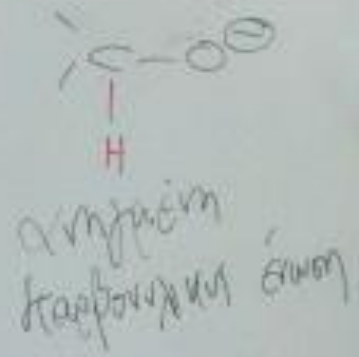
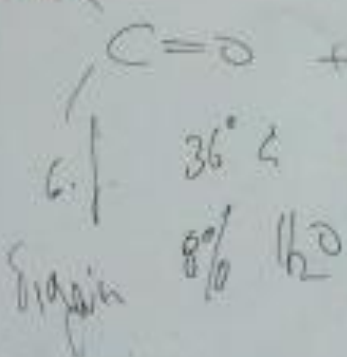
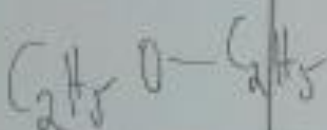
αρνητικά



απόλυτα  
αρνητικά



μετατρέπεται ως H<sup>-</sup>

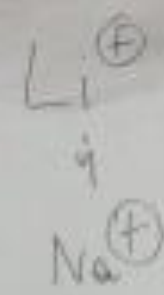
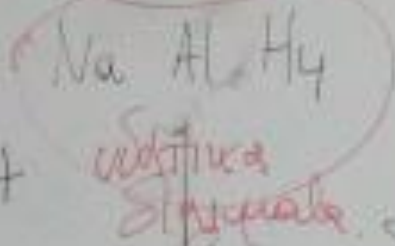
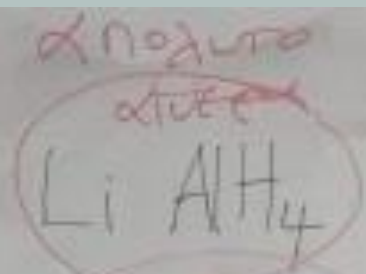


Υδρίδα

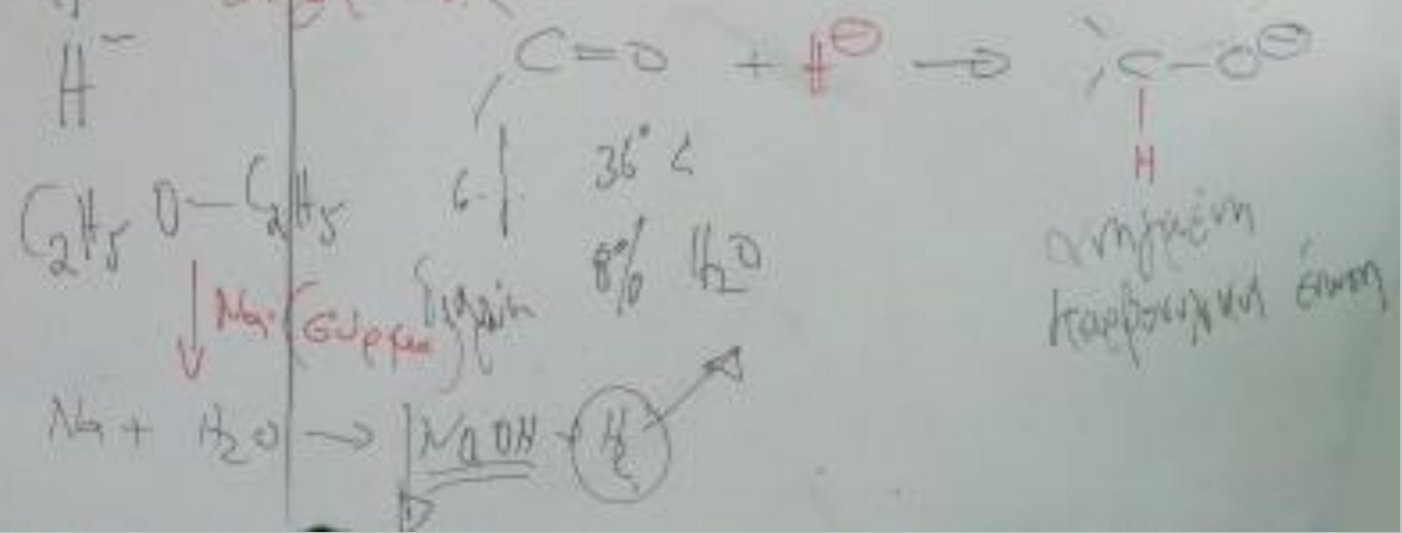
H Ένας αρίστος

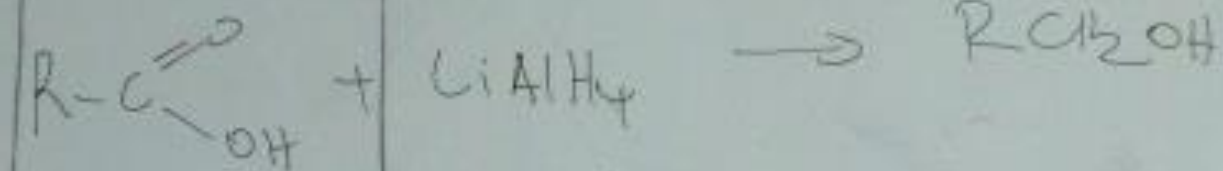
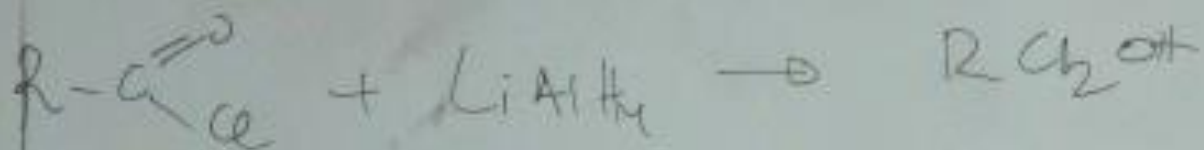
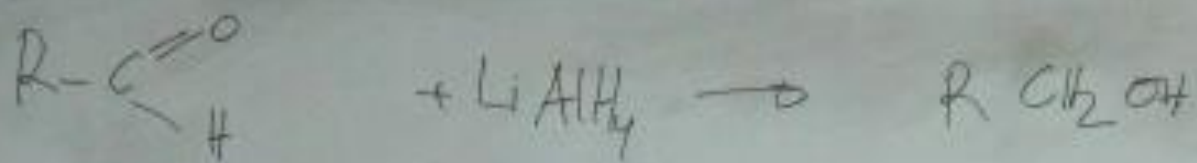
Πρωτόνιο  $H^+$

Υδρίδα  $H^-$

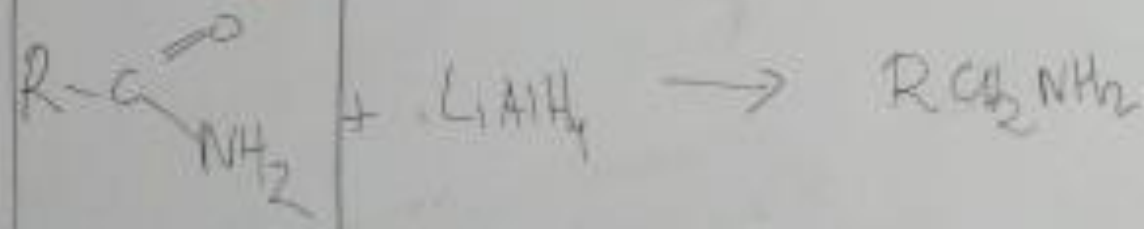
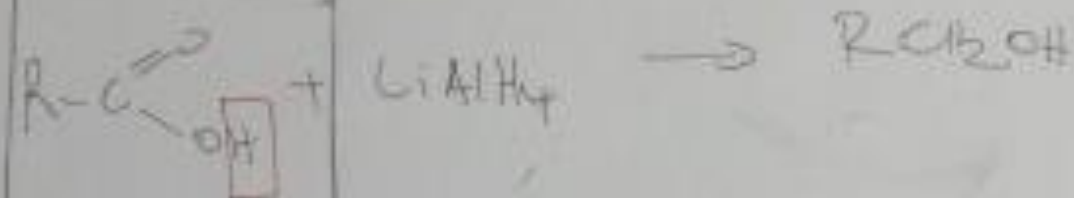
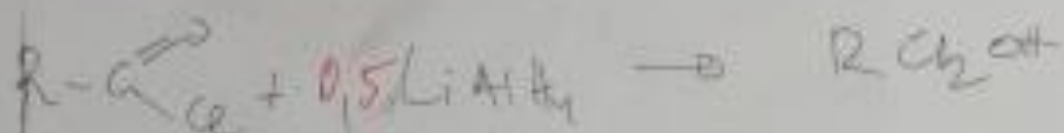
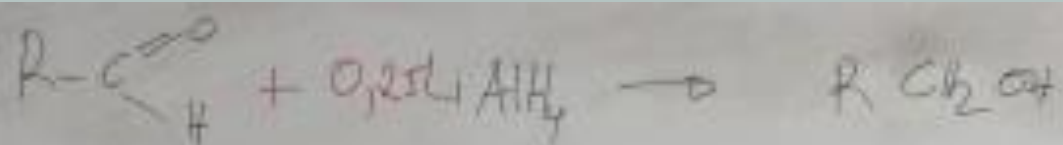


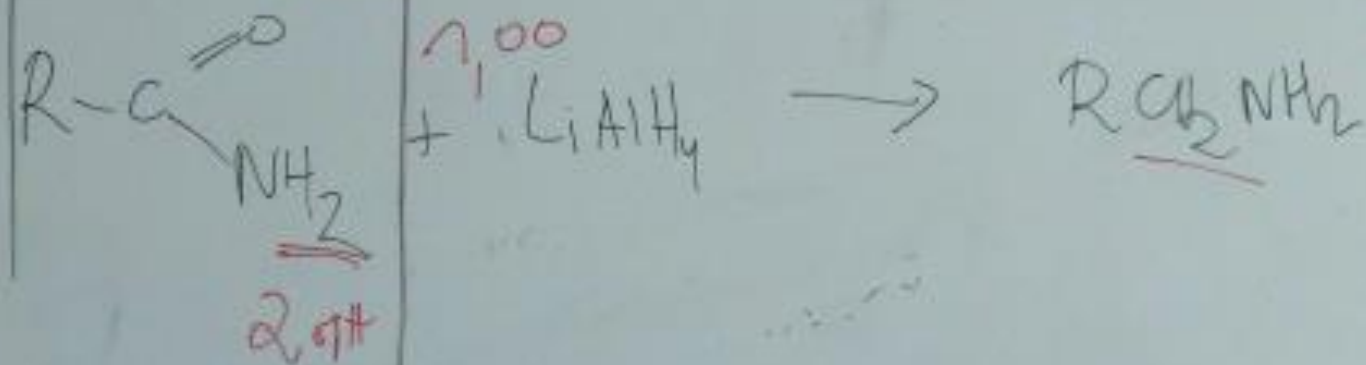
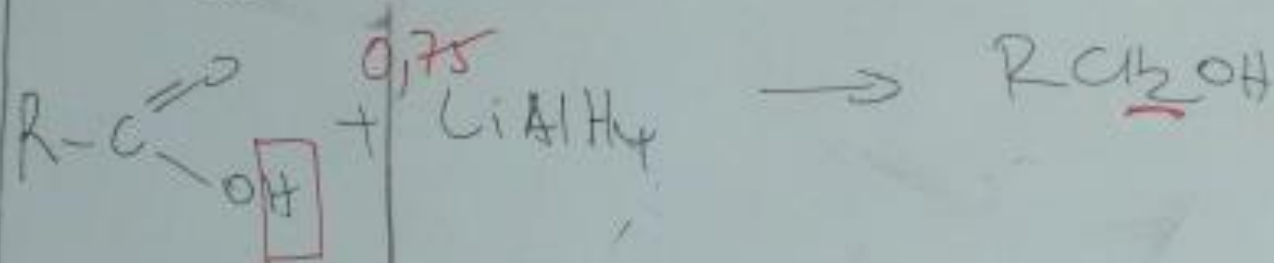
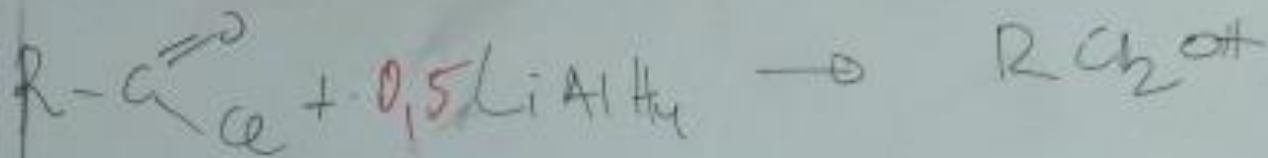
μετασχηματισμός  $H^-$

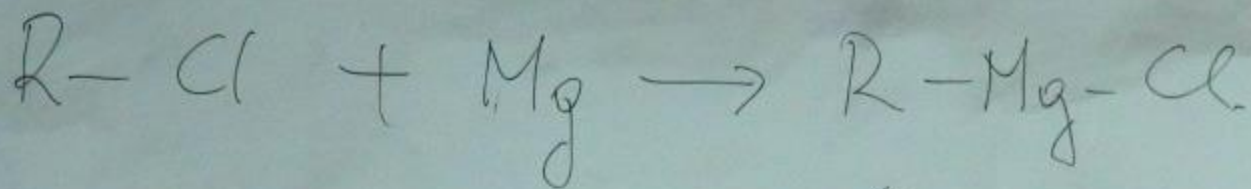








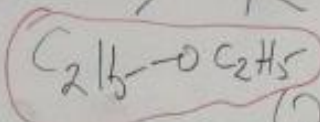
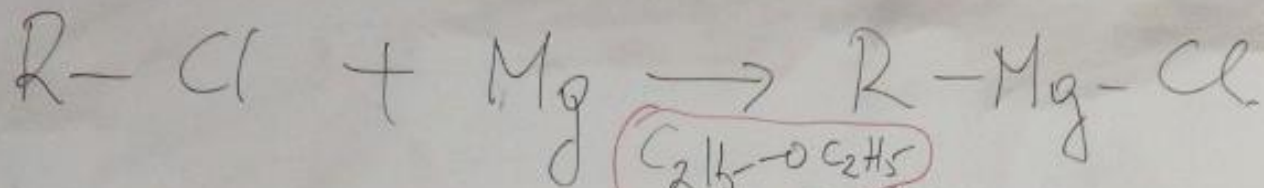




Grignard.

Органомагнийский

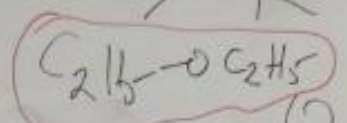
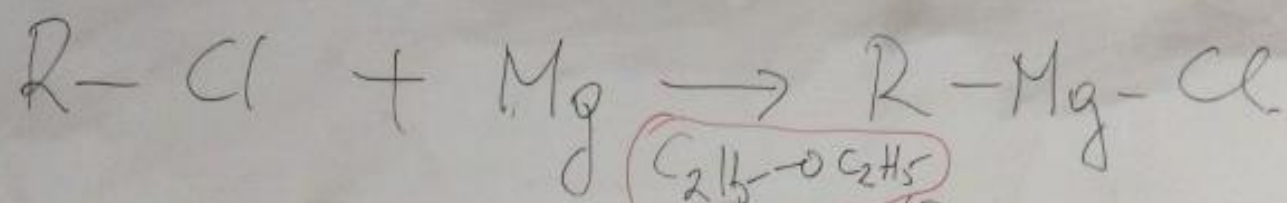
Grignard



diethyl ether

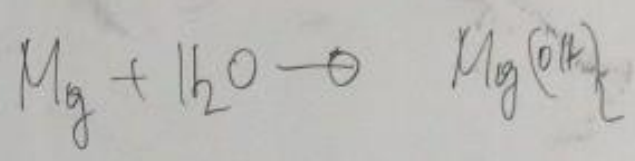
oxydvo peroxidinis

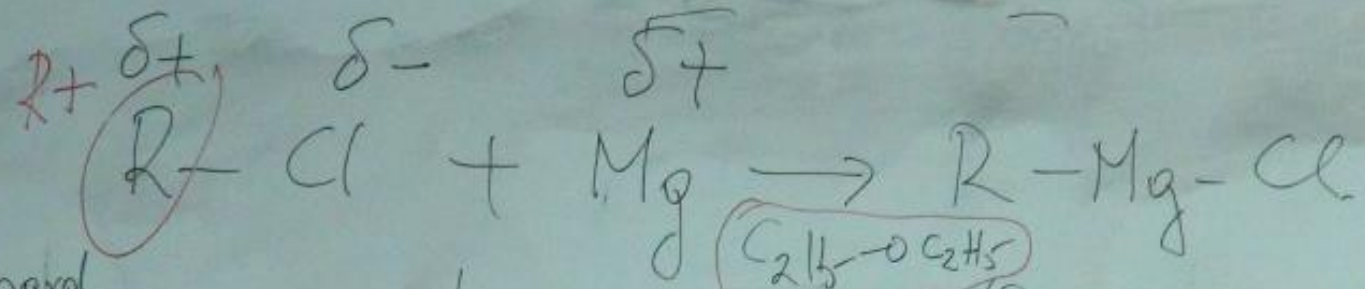
Grignard



diethyl ether

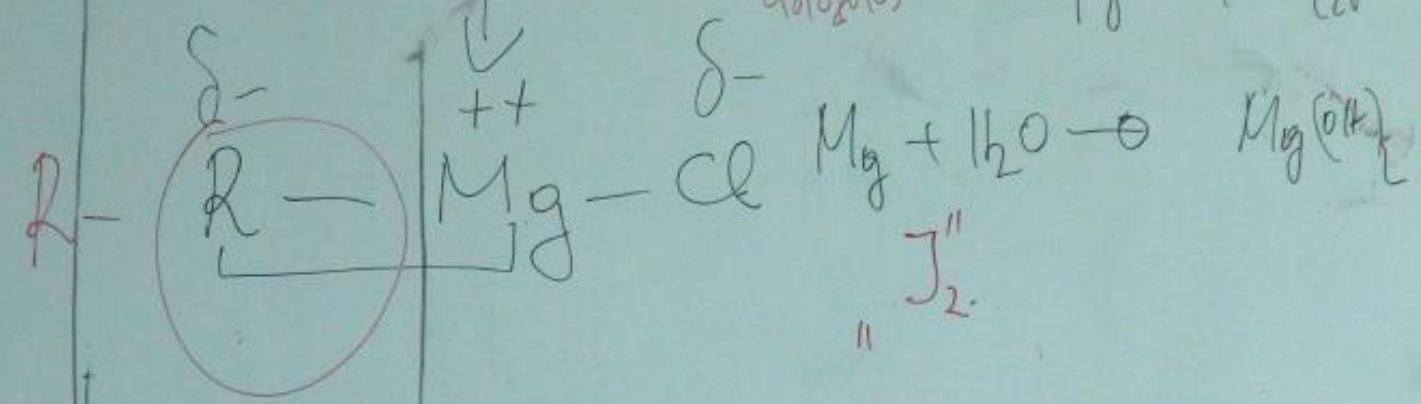
pydro metallic



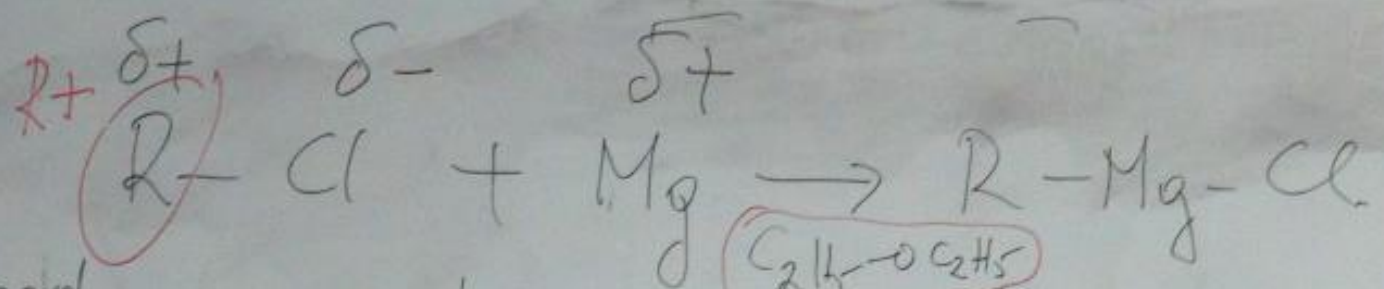


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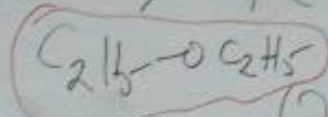
$(C_2H_5-O-C_2H_5)$   
 etanol  
 Opydroperatilis



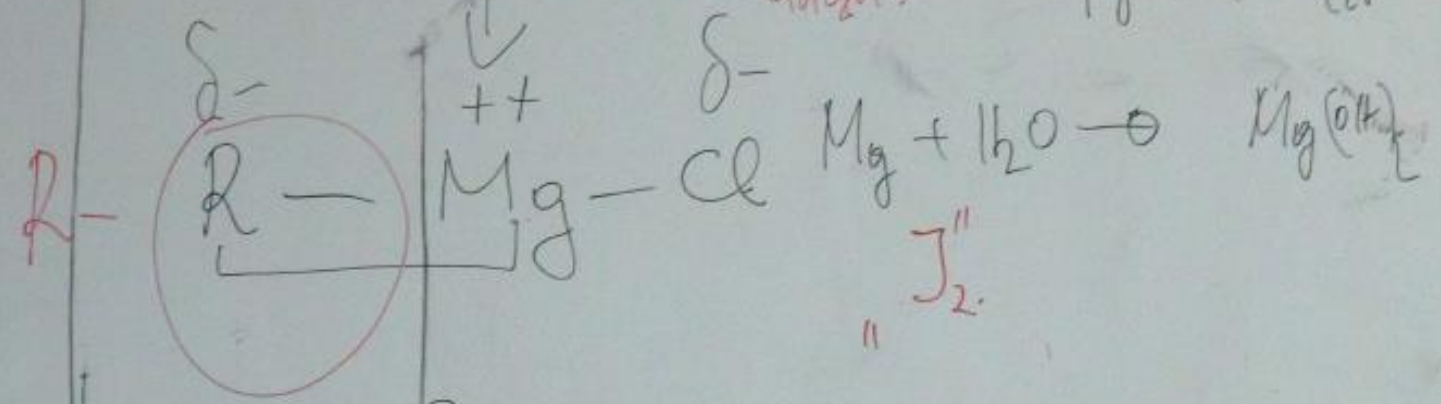
$J_2$   
 "



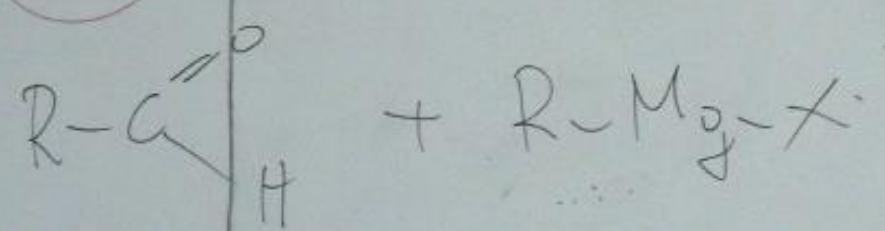
Grignard

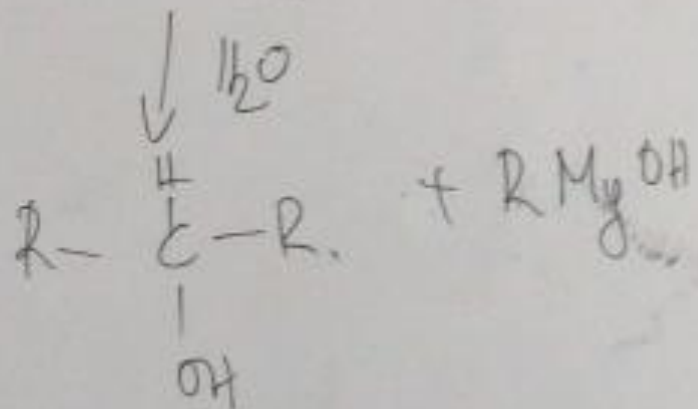
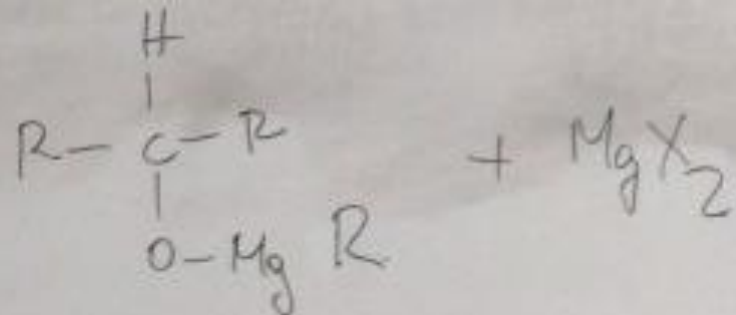
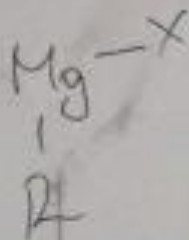
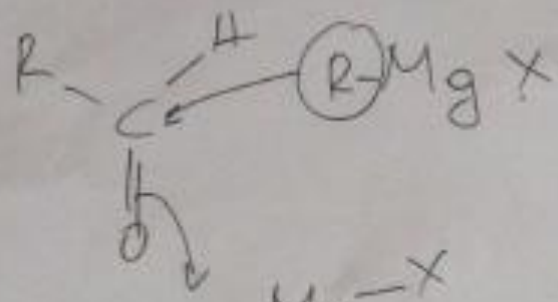


diethyl ether  
Oxydoperaldehyd

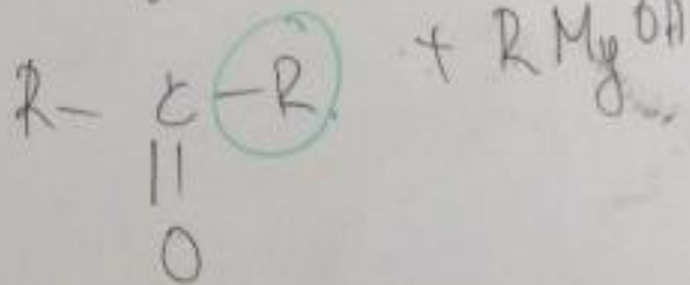
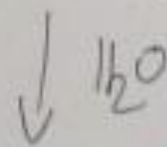
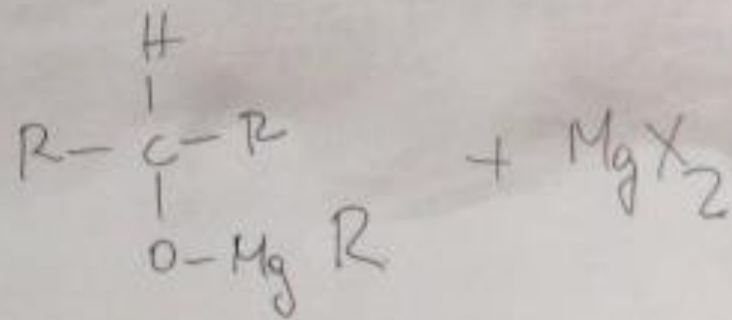
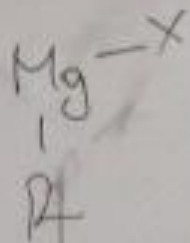
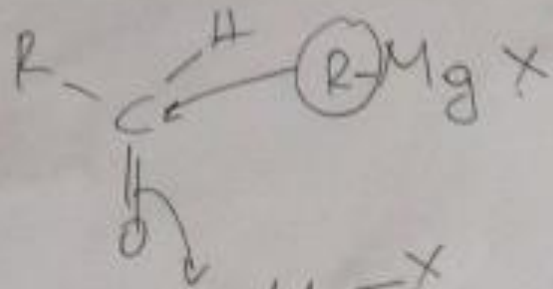


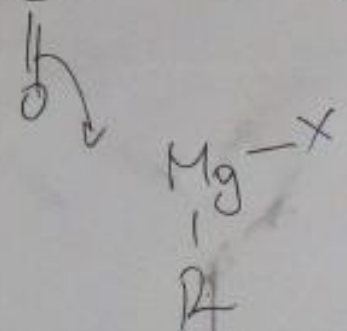
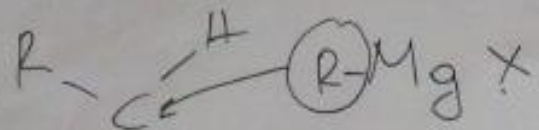
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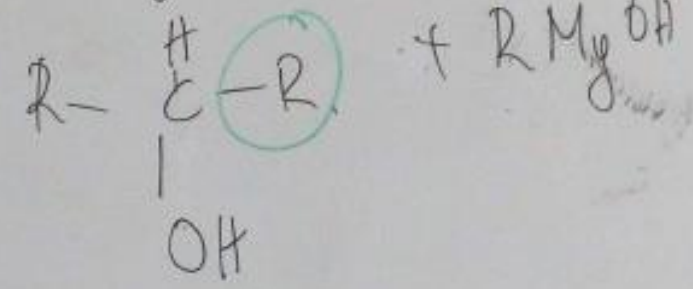
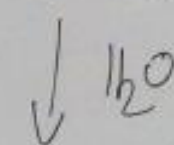
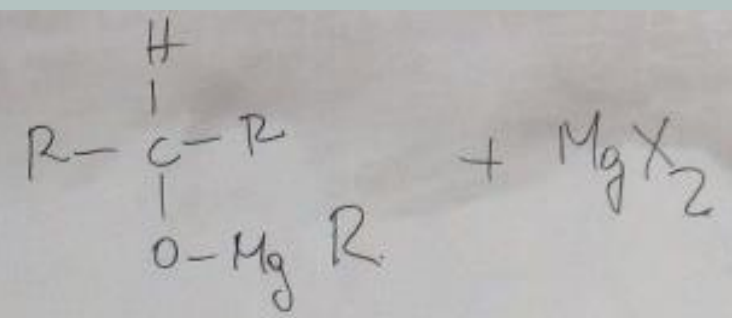


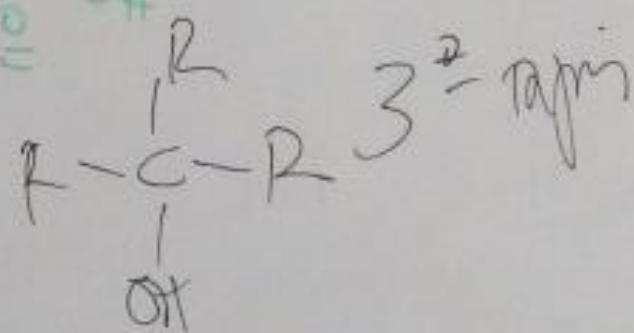
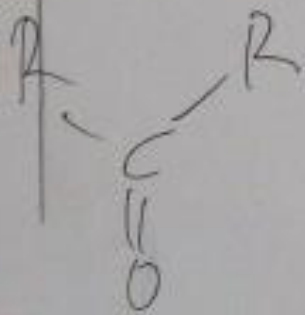
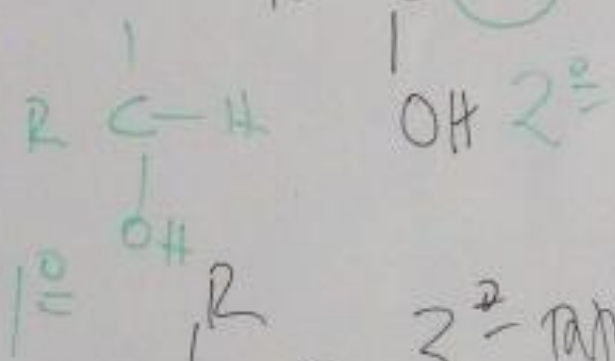
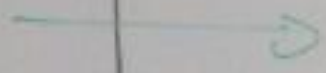
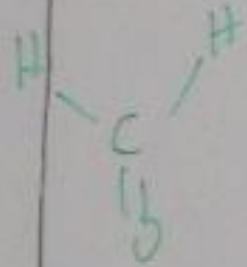
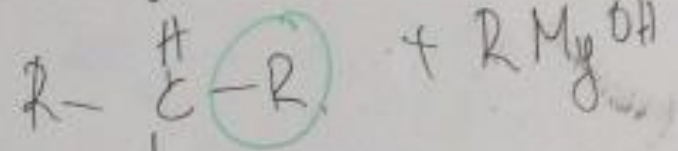
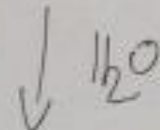
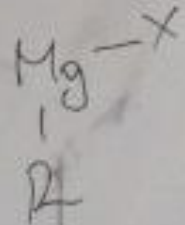
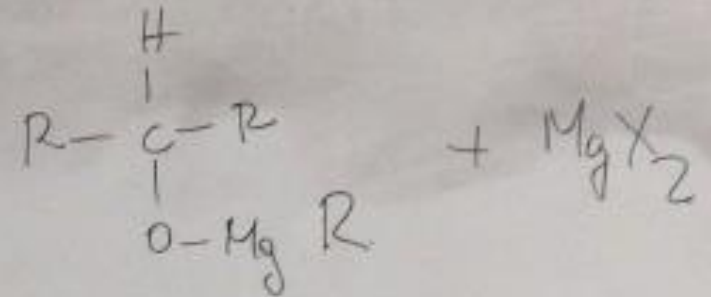
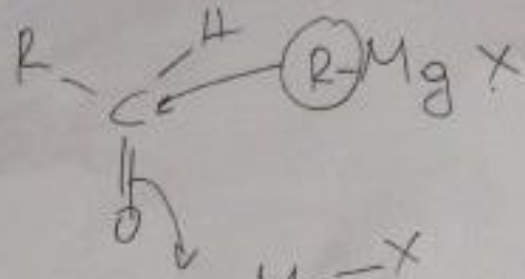


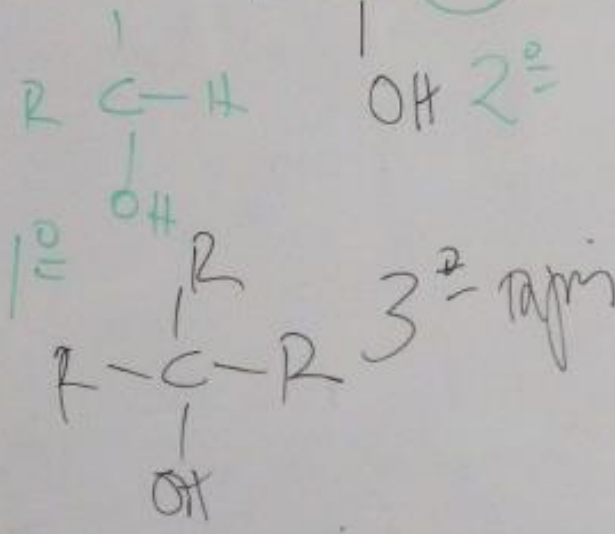
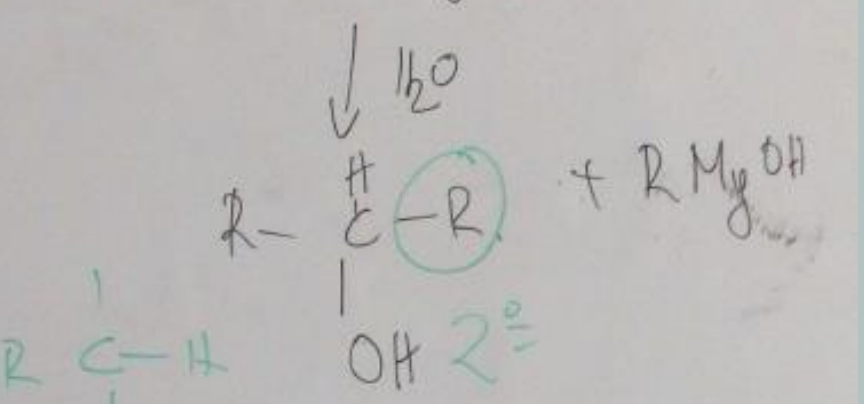
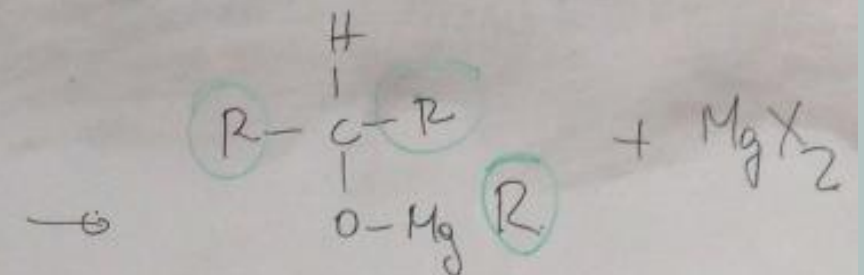
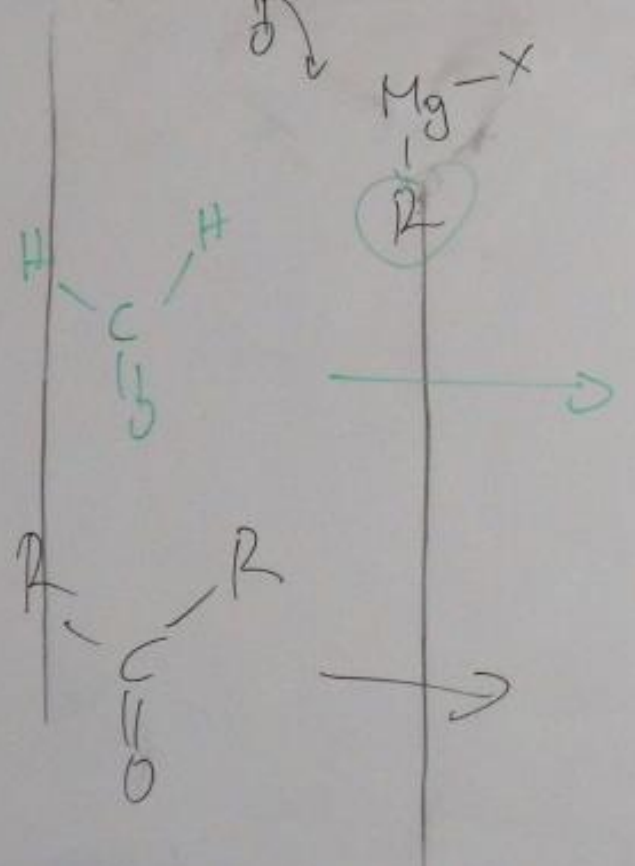
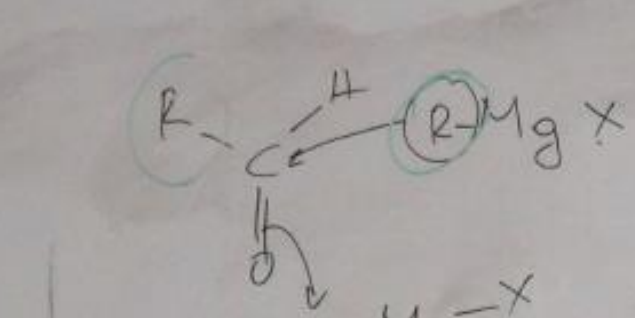




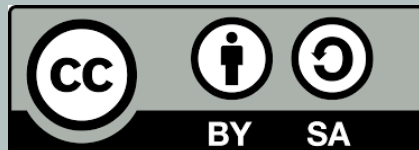
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# Τέλος Ενότητας



# Χρηματοδότηση

- Το παρόν εκπαιδευτικό υλικό έχει αναπτυχθεί στα πλαίσια του εκπαιδευτικού έργου του διδάσκοντα.
- Το έργο «**Ανοικτά Ακαδημαϊκά Μαθήματα στο Πανεπιστήμιο Ιωαννίνων**» έχει χρηματοδοτήσει μόνο τη αναδιαμόρφωση του εκπαιδευτικού υλικού.
- Το έργο υλοποιείται στο πλαίσιο του Επιχειρησιακού Προγράμματος «Εκπαίδευση και Δια Βίου Μάθηση» και συγχρηματοδοτείται από την Ευρωπαϊκή Ένωση (Ευρωπαϊκό Κοινωνικό Ταμείο) και από εθνικούς πόρους.



Ευρωπαϊκή Ένωση  
Ευρωπαϊκό Κοινωνικό Ταμείο



ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ & ΘΡΗΣΚΕΥΜΑΤΩΝ, ΠΟΛΙΤΙΣΜΟΥ & ΑΘΛΗΤΙΣΜΟΥ  
ΕΙΔΙΚΗ ΥΠΗΡΕΣΙΑ ΔΙΑΧΕΙΡΙΣΗΣ

Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



**Σημειώματα**

# Σημείωμα Ιστορικού Εκδόσεων Έργου

Το παρόν έργο αποτελεί την έκδοση 1.0.

Έχουν προηγηθεί οι κάτωθι εκδόσεις:

- Έκδοση 1.0 διαθέσιμη εδώ.

<http://ecourse.uoi.gr/course/view.php?id=1127>.



# Σημείωμα Αναφοράς

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Καθηγητής Γεώργιος Πηλίδης. «Οργανική Χημεία II.  
Καρβονυλικές ενώσεις». Έκδοση: 1.0. Ιωάννινα 2014.  
Διαθέσιμο από τη δικτυακή διεύθυνση:  
<http://ecourse.uoi.gr/course/view.php?id=1127>.

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