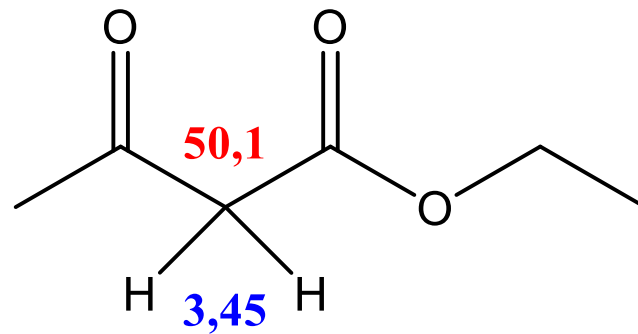
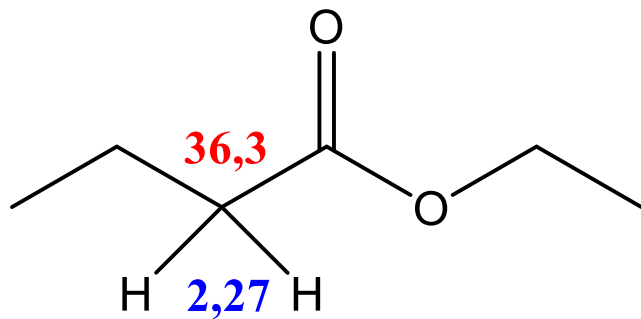
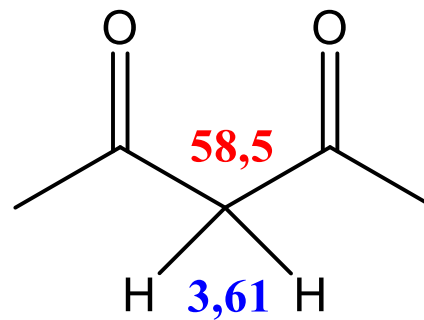
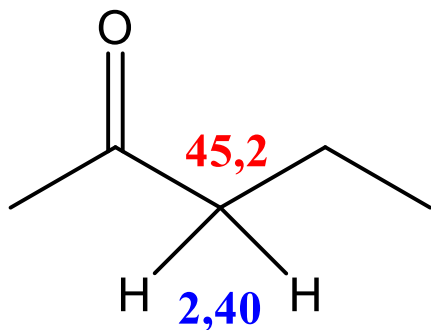
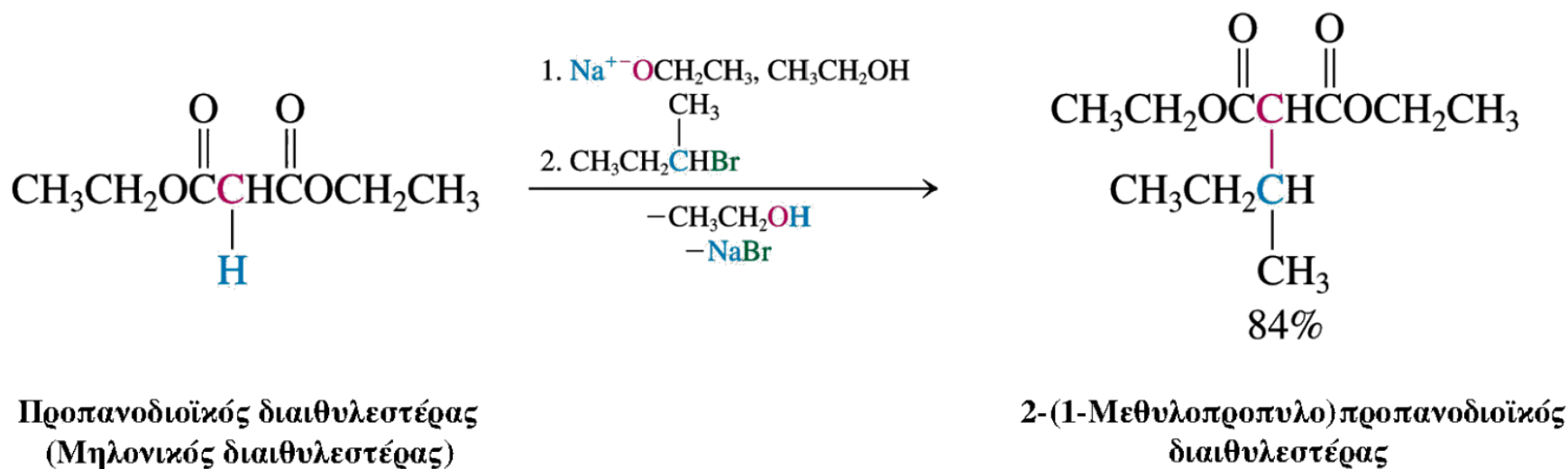
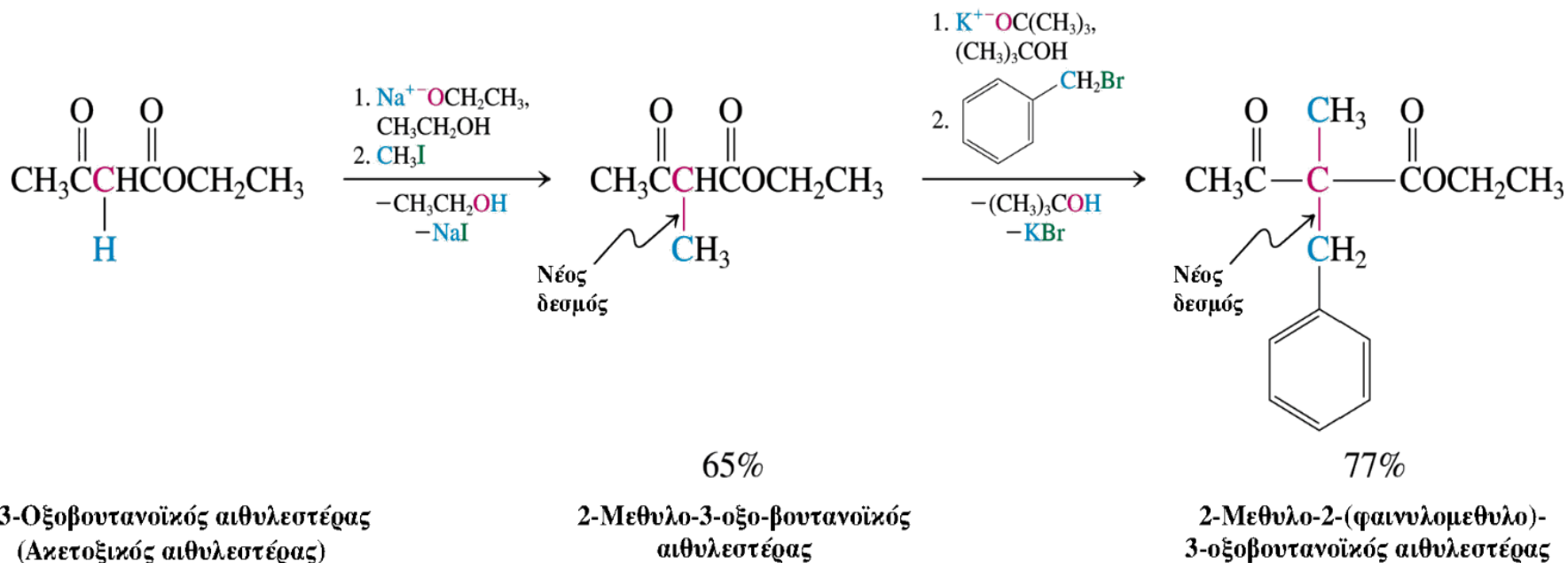


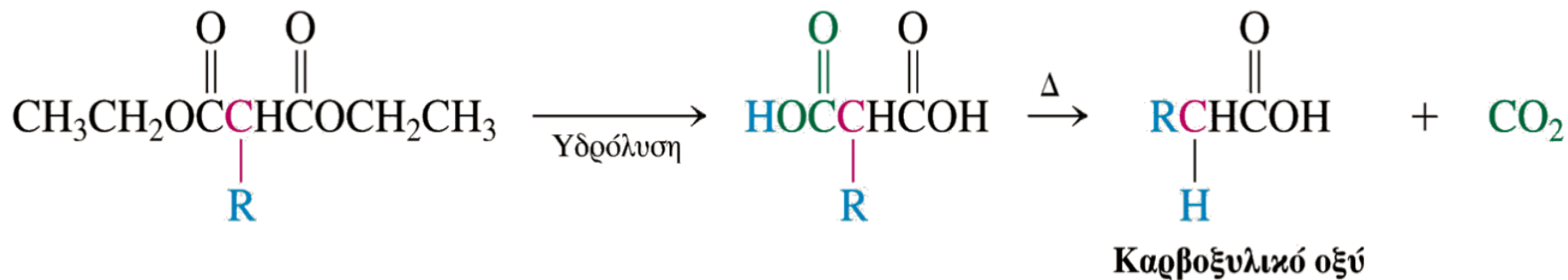
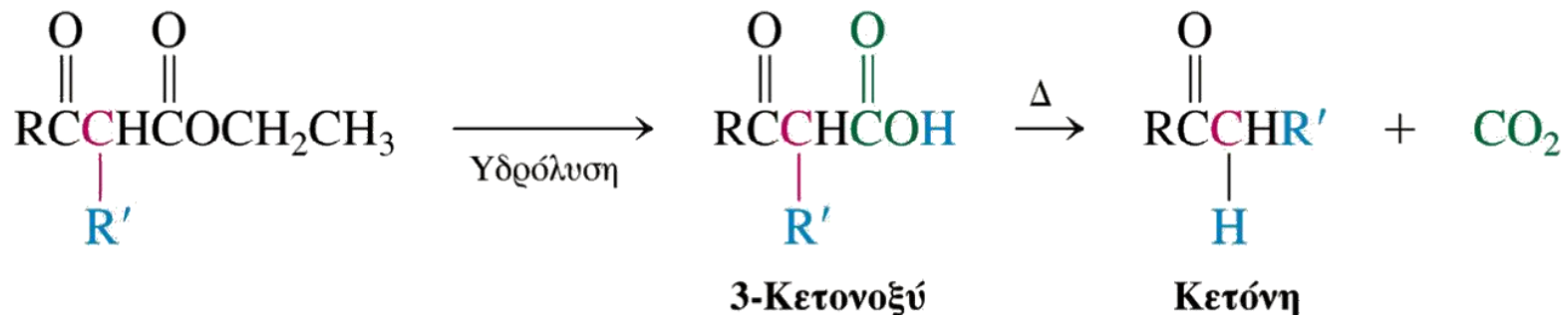
# $^1\text{H-NMR}$ και $^{13}\text{C-NMR}$

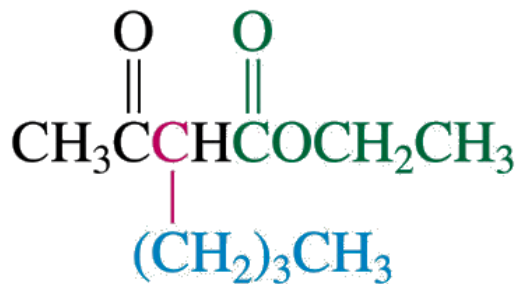


## Αλκυλιώσεις β-κετοεστέρων

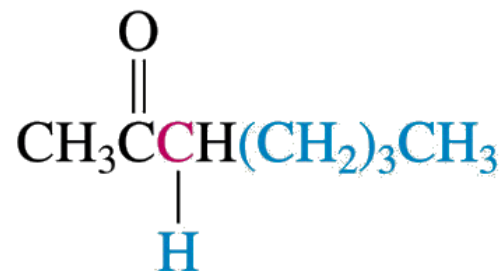
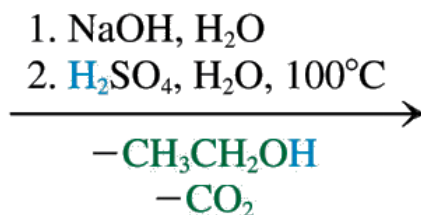


## Σχηματισμός και αποκαρβοξυλίωση των 3-κετονοξέων

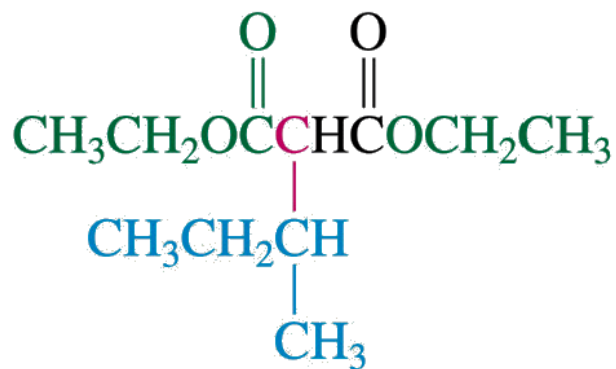




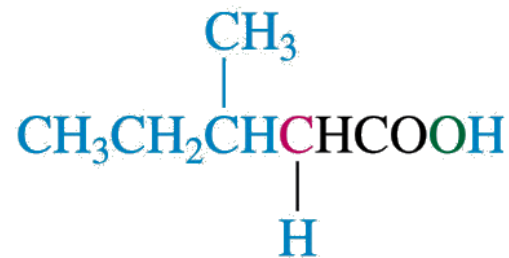
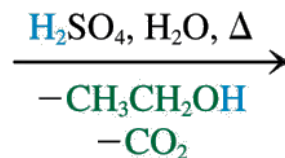
2-Βουτυλο-3-οξοβουτανοϊκός  
αιθυλεστέρας



60%  
2-Επτανόνη

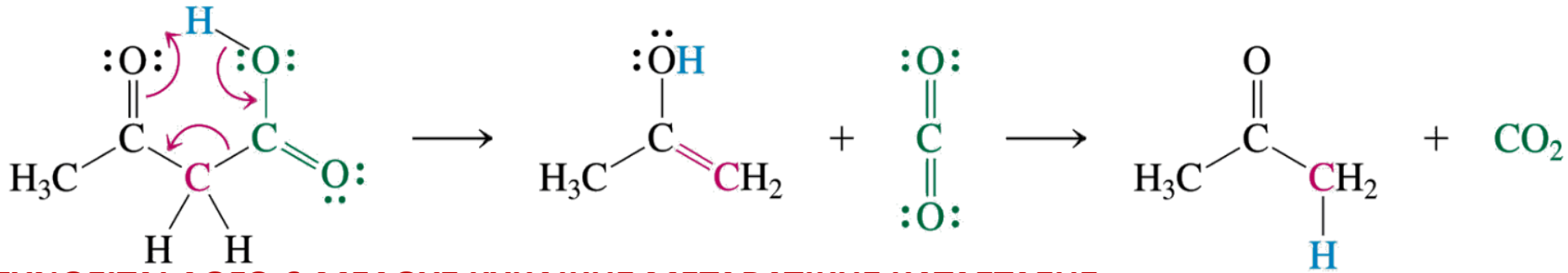


2-(1-Μεθυλοπροπυλο)προπανοδιοϊκός  
δαιθυλεστέρας



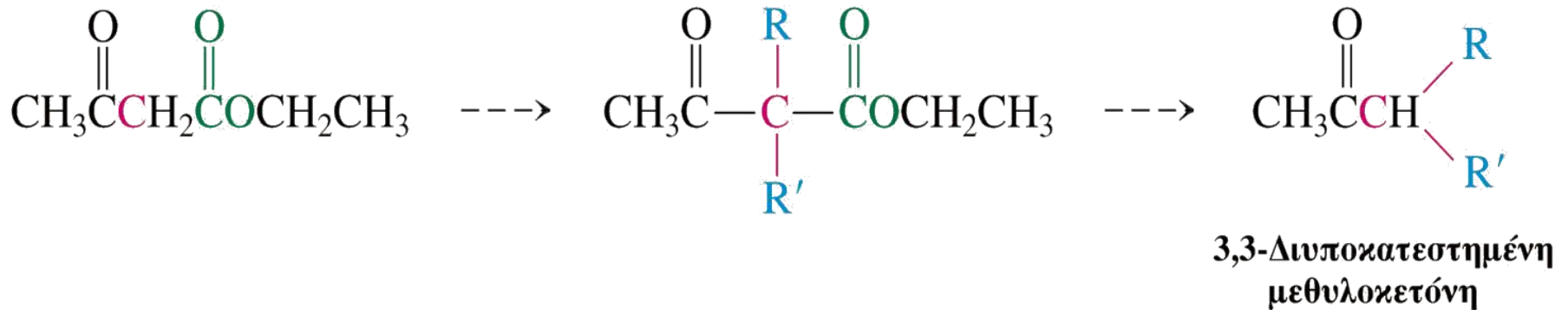
65%  
3-Μεθυλοπεντανοϊκό οξύ

## Μηχανισμός αποκαρβοξυλίωσης των 3-κετονοξέων

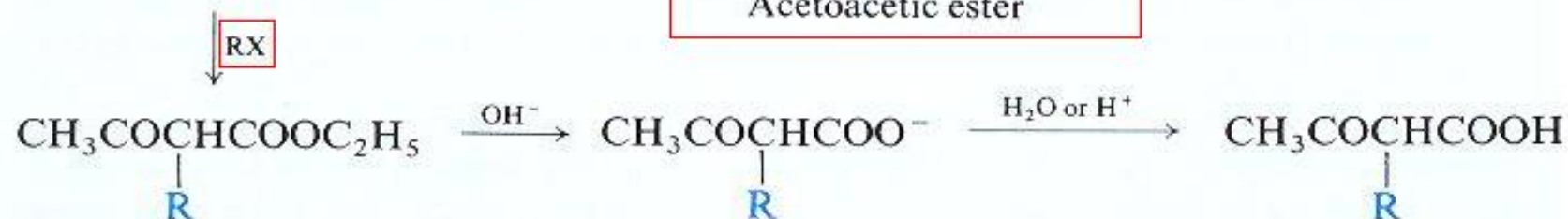
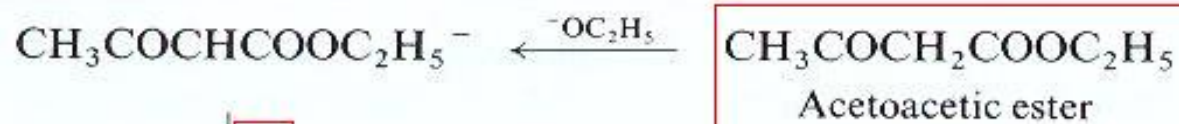


**ΕΥΝΟΕΙΤΑΙ ΛΟΓΩ 6-ΜΕΛΟΥΣ ΚΥΚΛΙΚΗΣ ΜΕΤΑΒΑΤΙΚΗΣ ΚΑΤΑΣΤΑΣΗΣ**

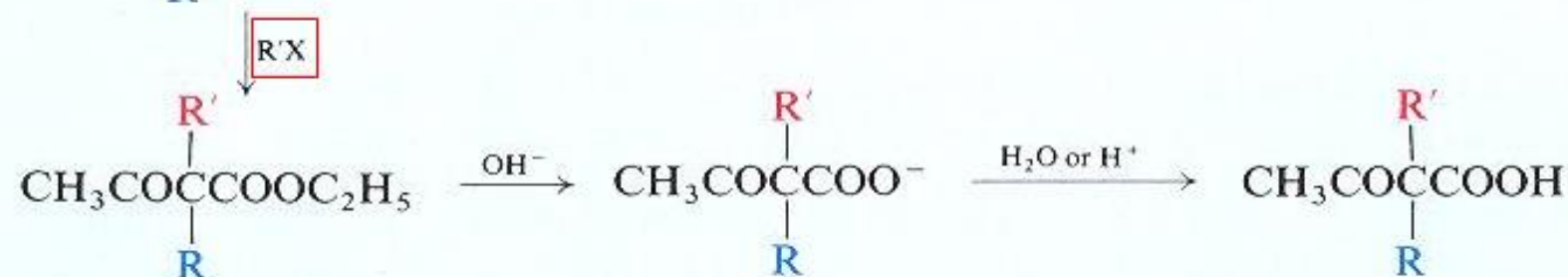
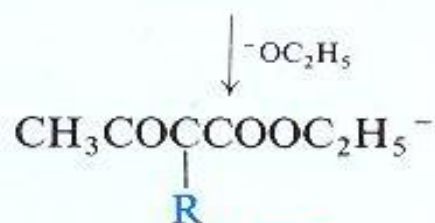
## Ακετοξική σύνθεση



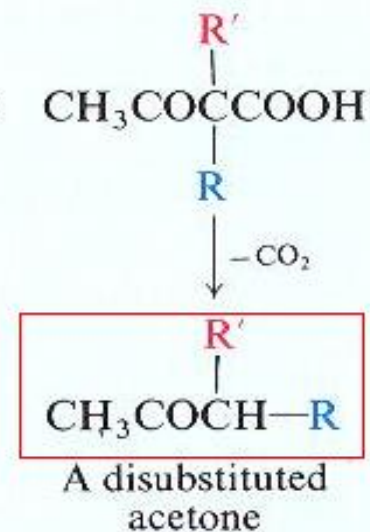
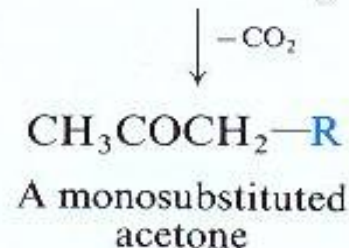
## Acetoacetic ester synthesis of ketones



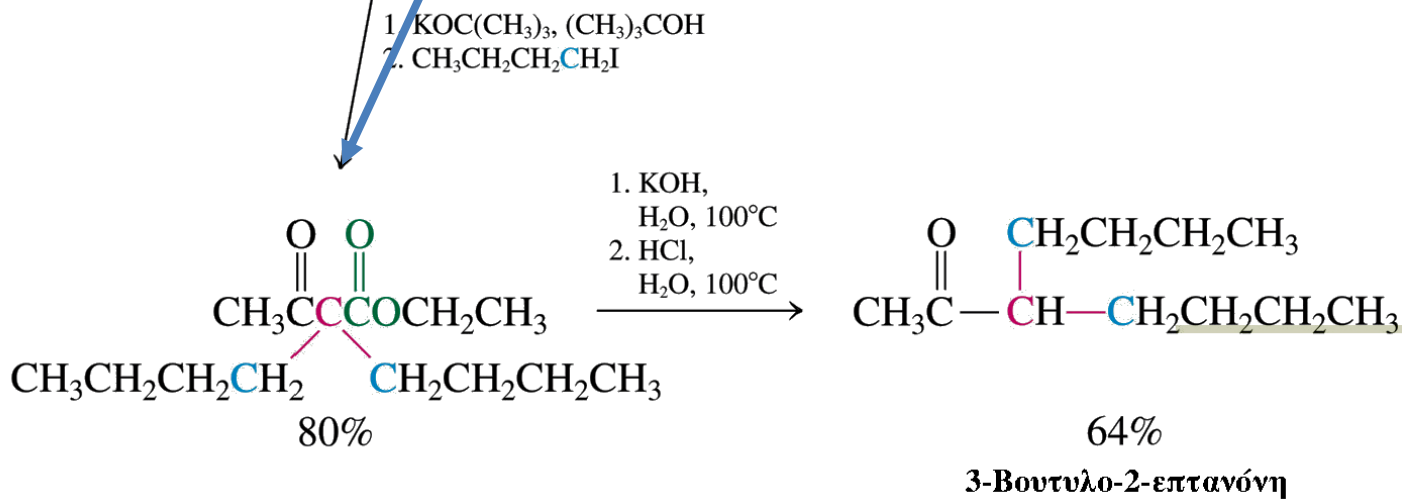
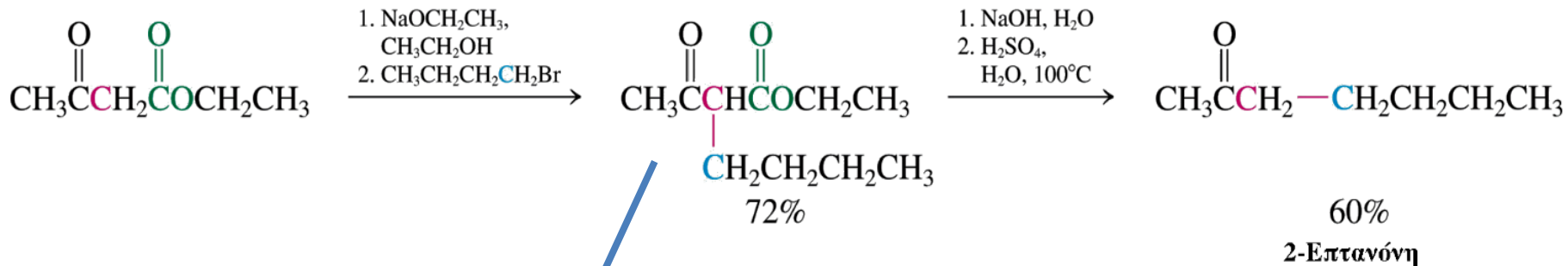
A monoalkylacetoacetic ester

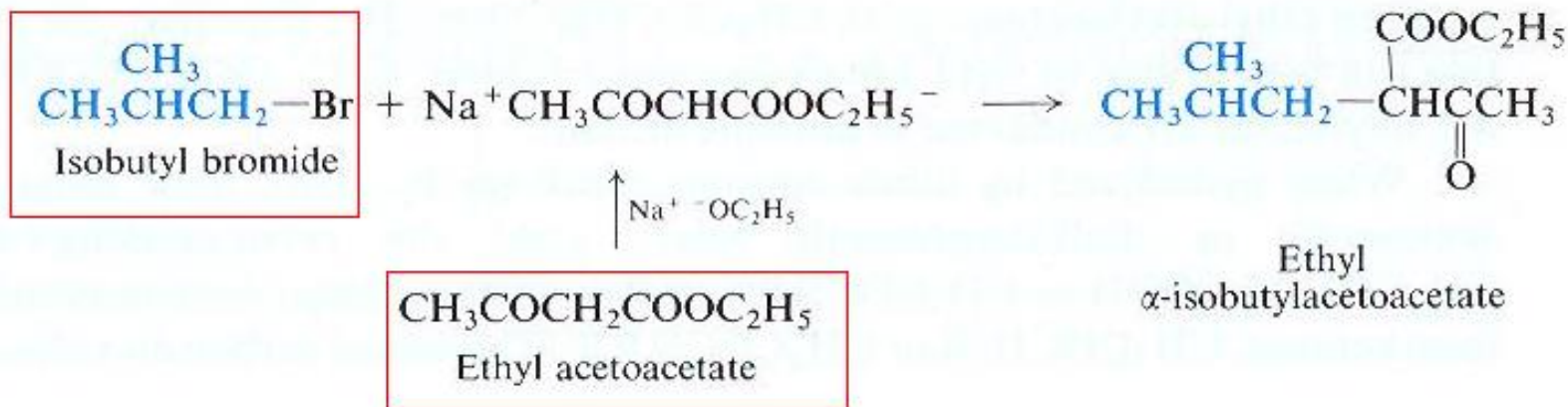
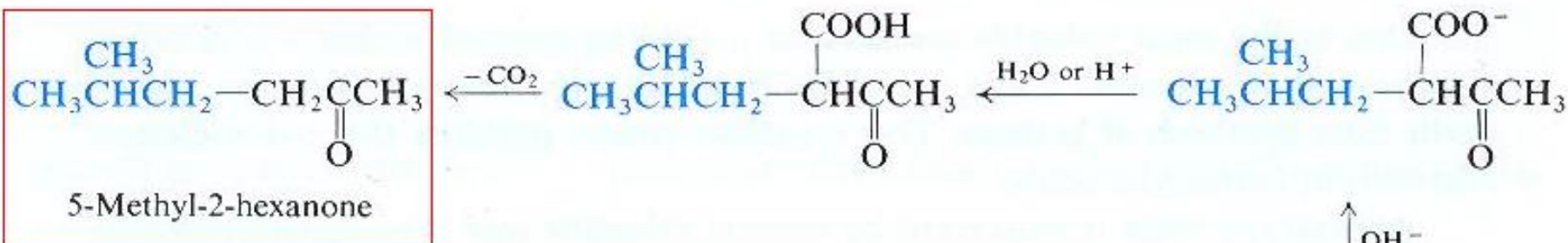


A dialkylacetoacetic ester



## Συνθέσεις υποκατεστημένων μεθυλοκετονών

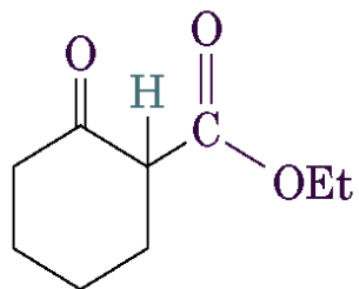




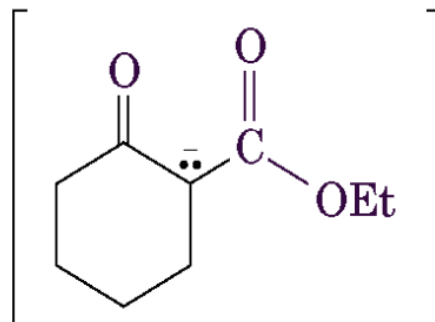
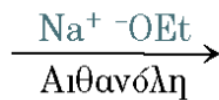
$\uparrow \text{OH}^-$



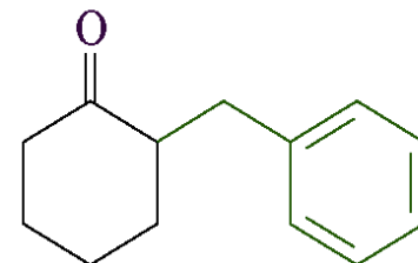
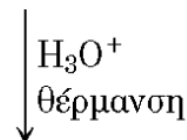
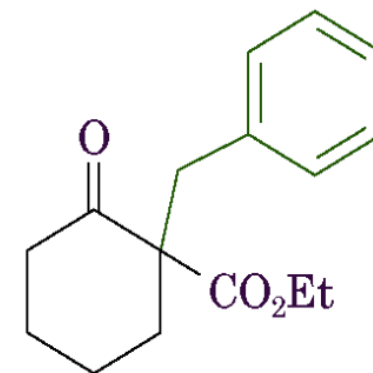




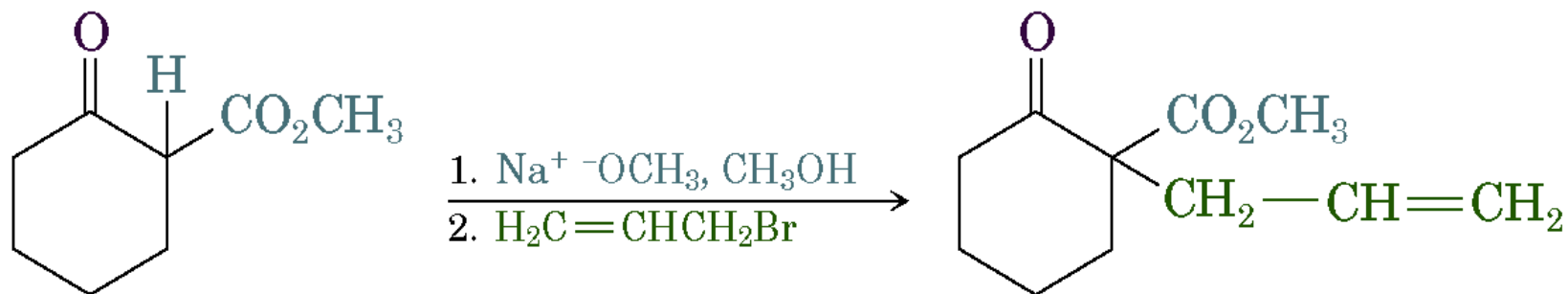
**2-Οξοκυκλοεξανο-  
καρβοξυλικό αιθύλιο**



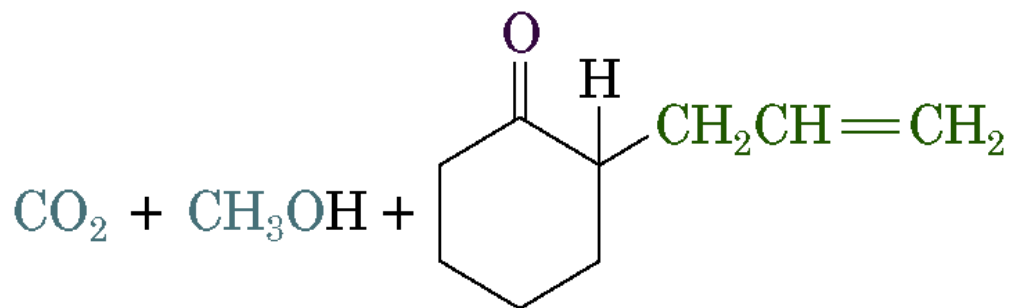
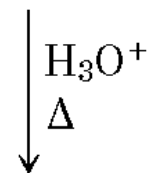
**Ενολικό ιόν**



**2-Βενζυλοκυκλοεξανόνη  
(77%)**

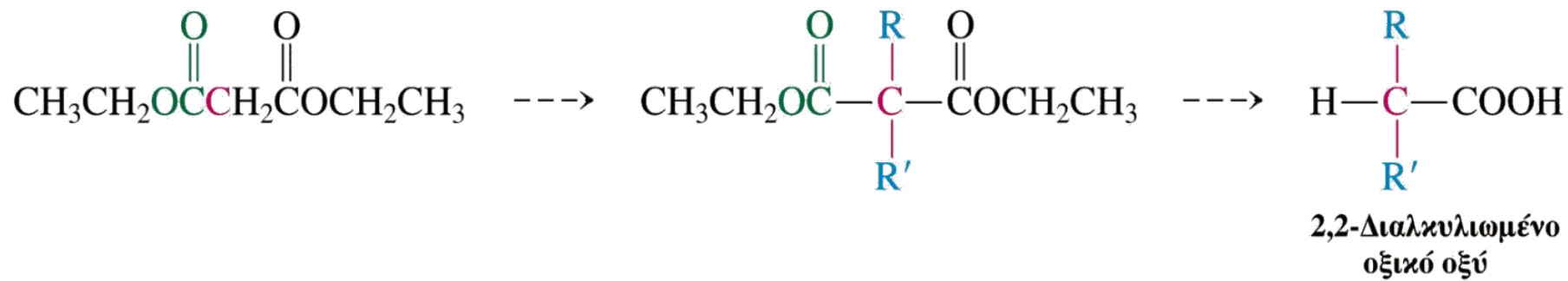


**2-Οξοκυκλοεξανοκαρβοξυλικό μεθύλιο**

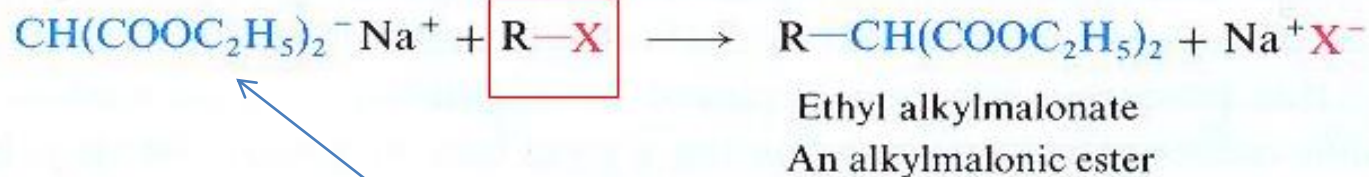


**2-Αλλυλοκυκλοεξανόνη**  
**(83%)**

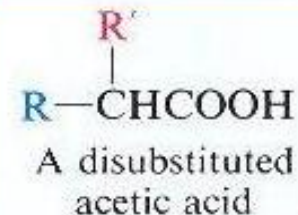
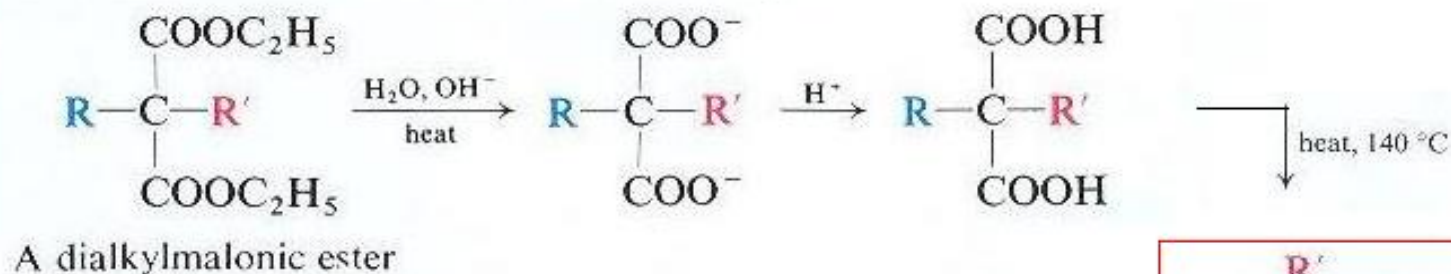
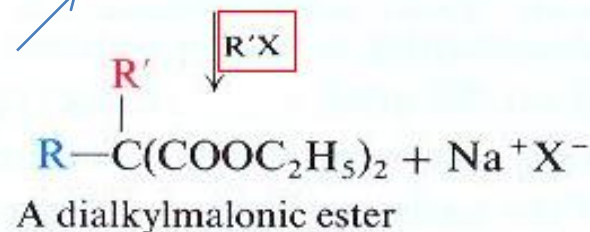
## Μηλονική σύνθεση

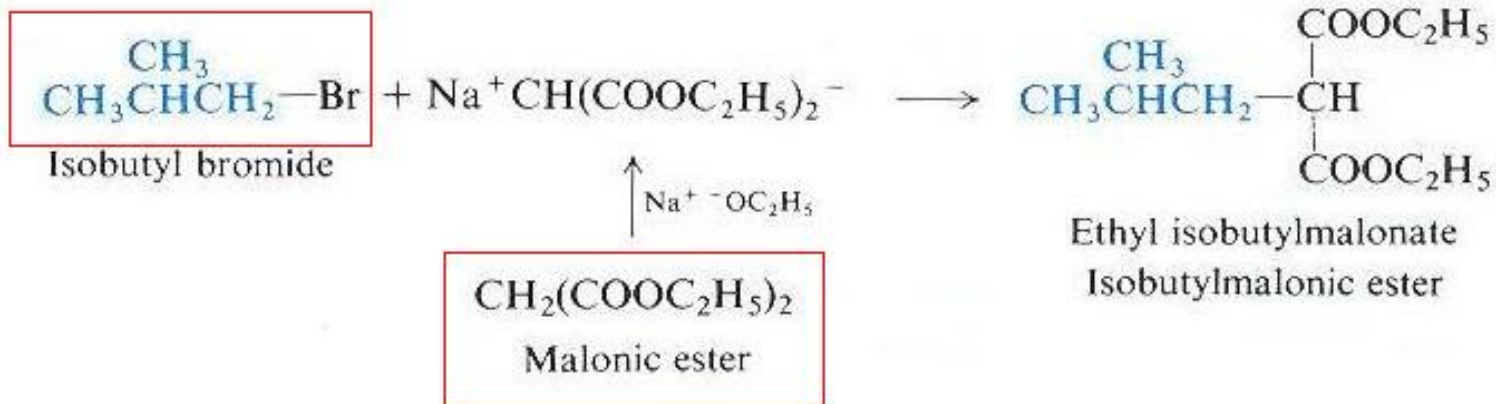
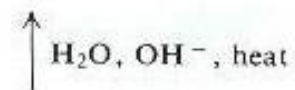
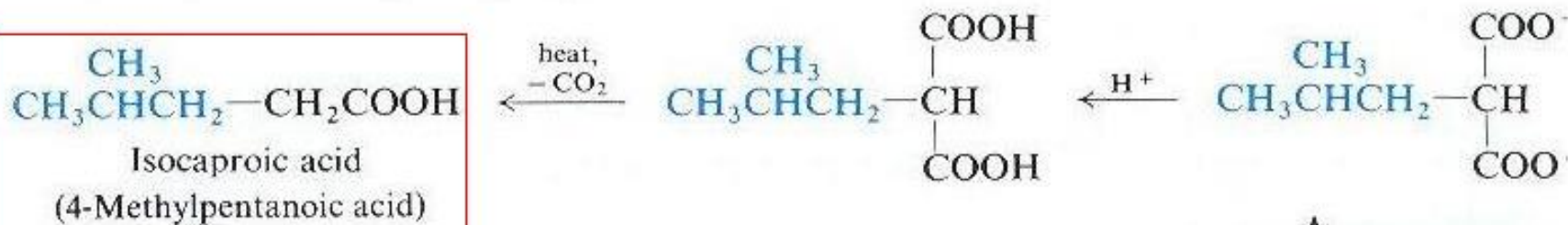


## Malonic ester synthesis of carboxylic acids

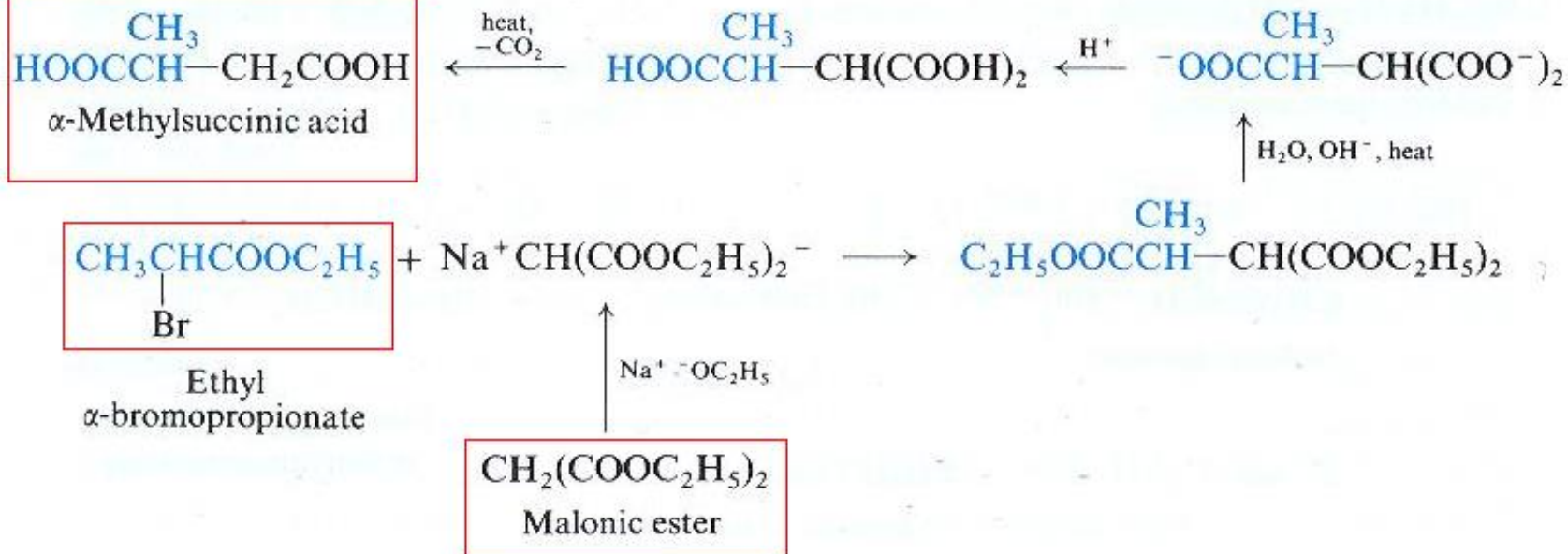


**Ενολικό ιόν**

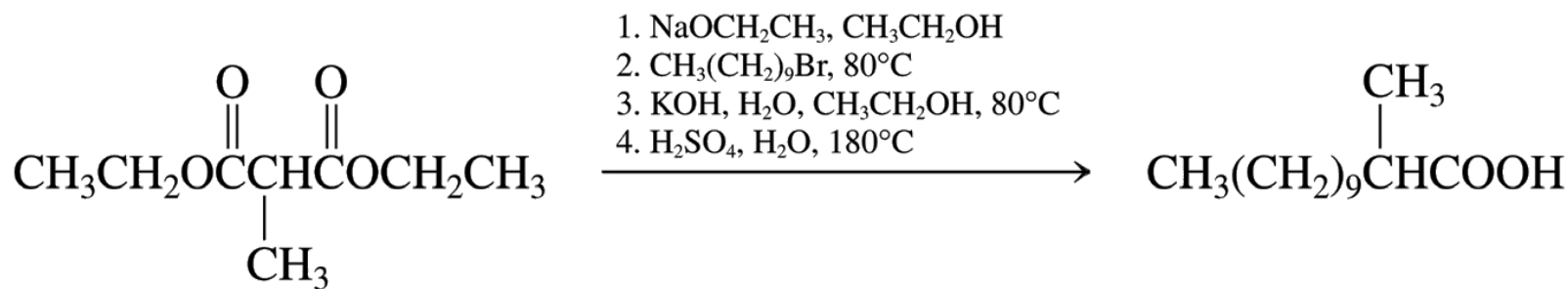








### Σύνθεση ενός 2,2-διαλκυλιωμένου οξικού οξέος



2-Μεθυλοπροπανοδιοϊκός διαιθυλεστέρας  
(Μεθυλομηλονικός διαιθυλεστέρας)

74%

2-Μεθυλοδωδεκανοϊκό οξύ