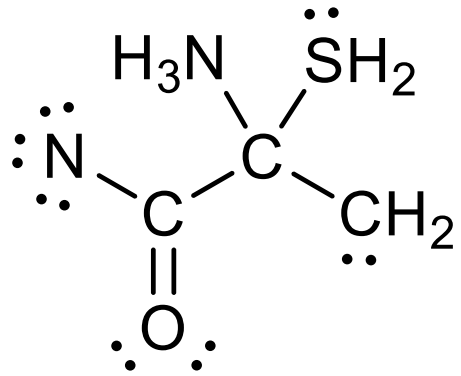
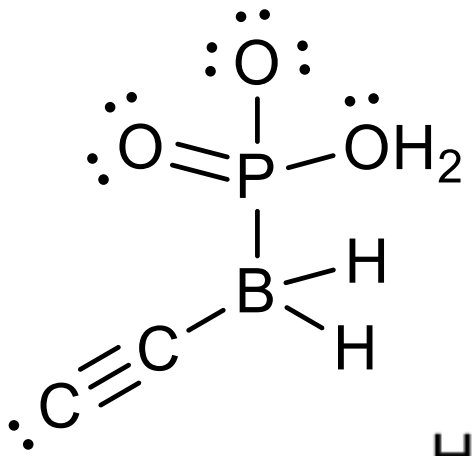
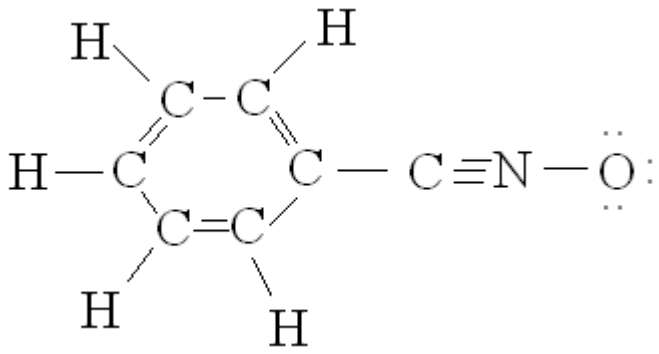
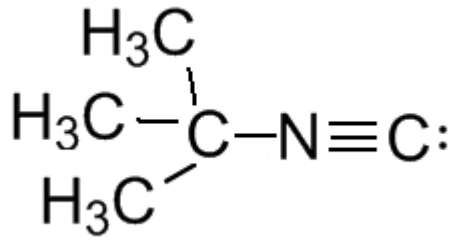
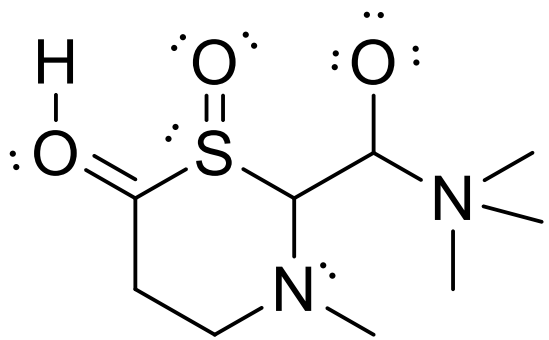
Υπολογίστε όλα τα τυπικά φορτία στις παρακάτω δομές.



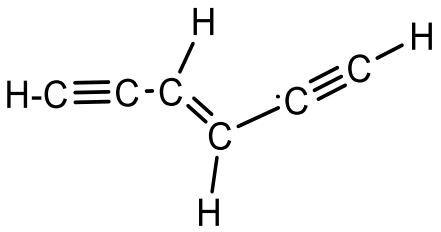


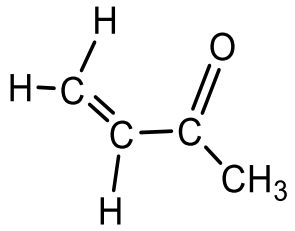


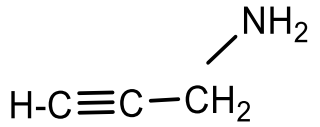


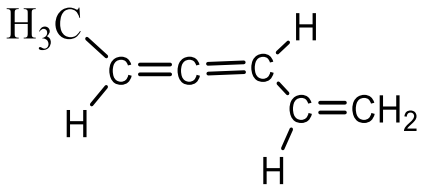


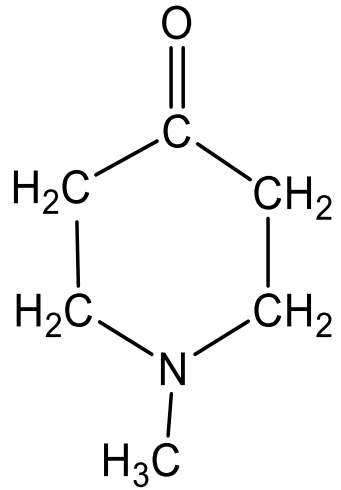
Ποιός ο υβριδισμός των ατόμων C και των ετεροατόμων και οι γωνίες των δεσμών των ενώσεων:



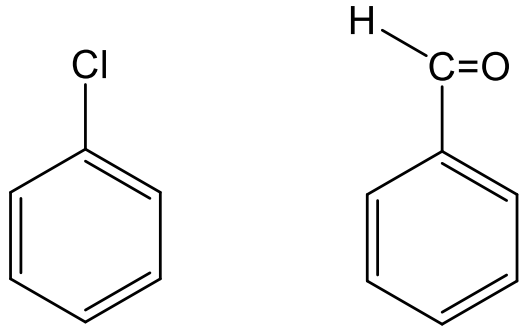


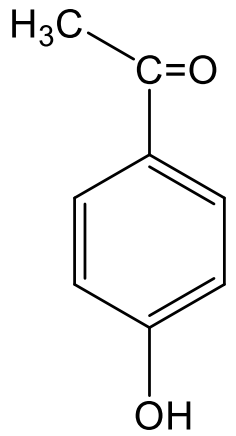


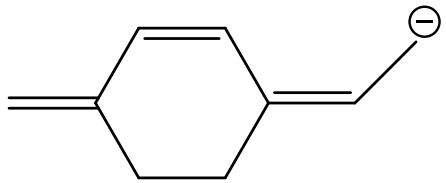


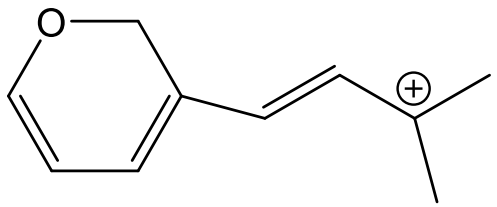


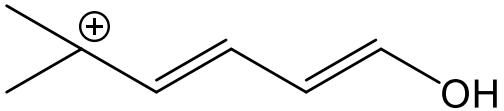
Σχεδιάστε τις δομές συντονισμού των παρακάτω ενώσεων:

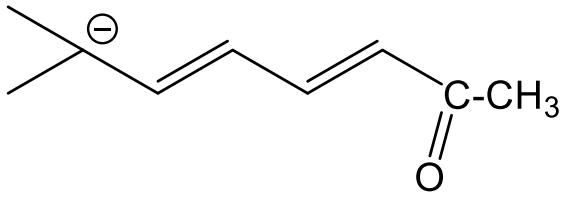


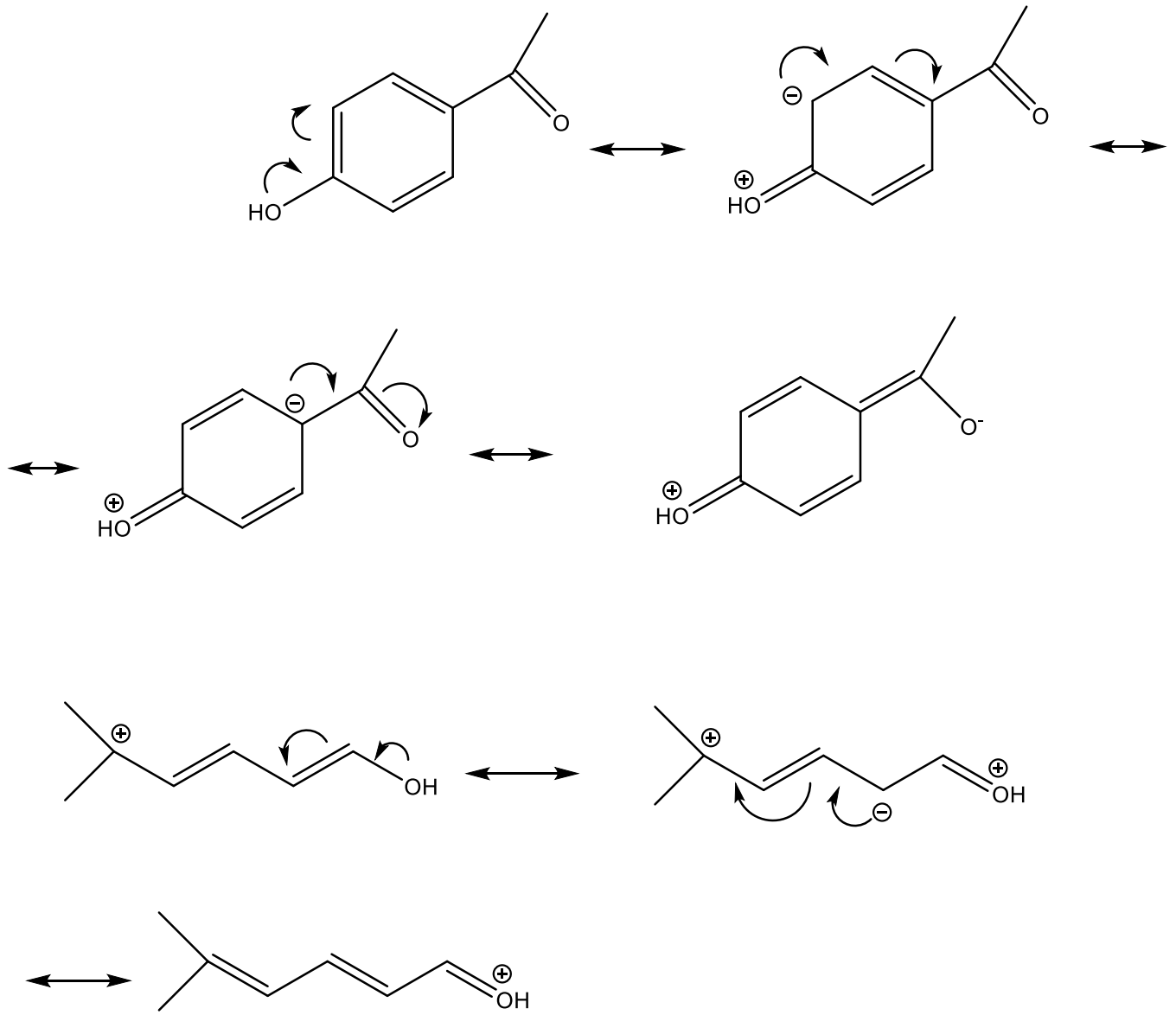








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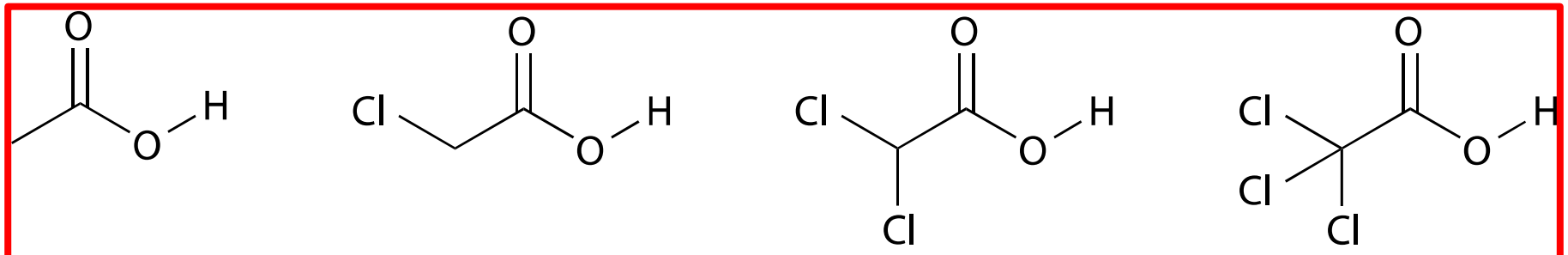
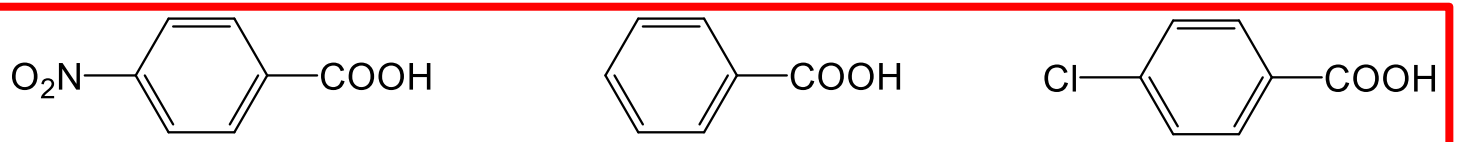
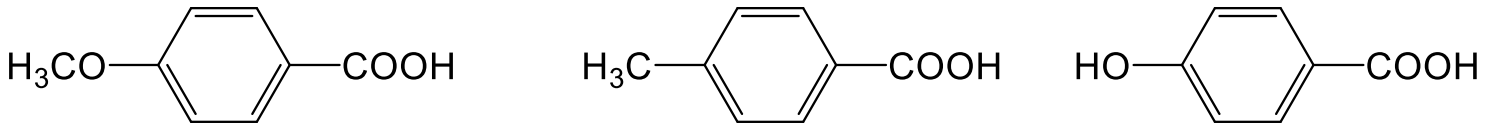
Εξηγείστε τις διαφορές στις τιμές pK_a των παρακάτω ενώσεων:



pK_a = 4,75 pK_a = 2,87 pK_a = 1,25 pK_a = 0,70

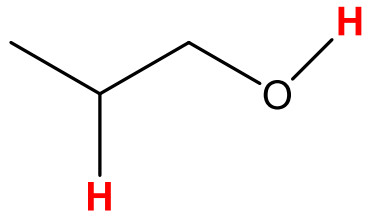


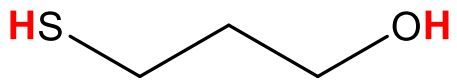
pKa: 3,43 **pKa: 4,21** **pKa: 4,00**

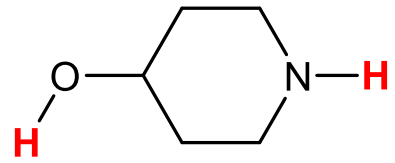


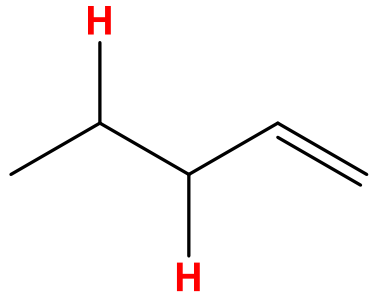
pKa: 4,25 **pKa: 4,38** **pKa: 4,55**

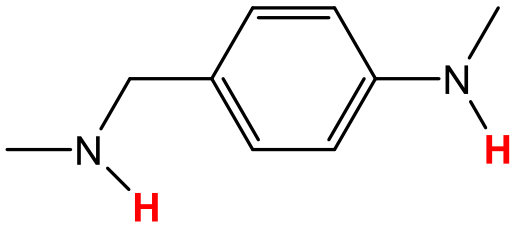
Ποιο από τα δύο πρωτόνια σε κάθε ένωση είναι πιο όξινο;

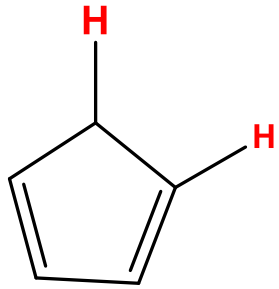
1) 

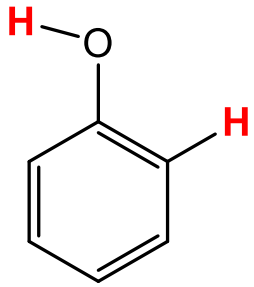
2) 

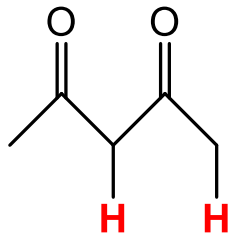
3) 

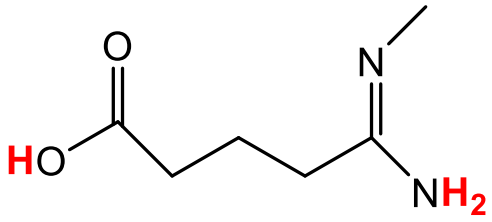
4) 

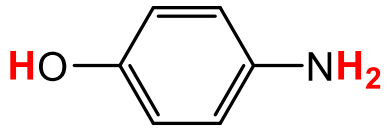
5) 

6) 

7) 

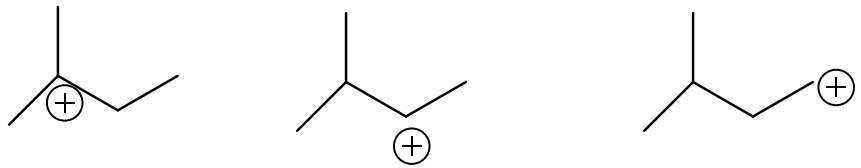
8) 

9) 

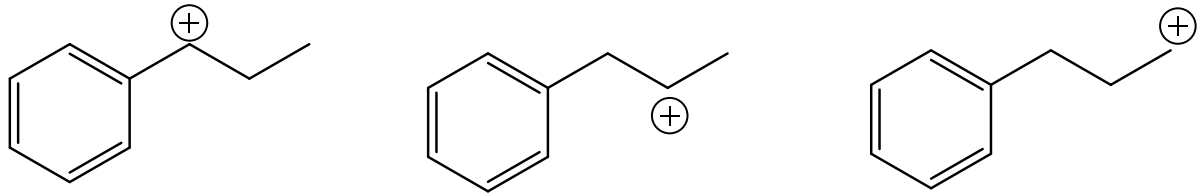
10) 

Να ταξινομηθούν τα καρβοκατιόντα κάθε ομάδας κατά σειρά αυξανόμενης σταθερότητας:

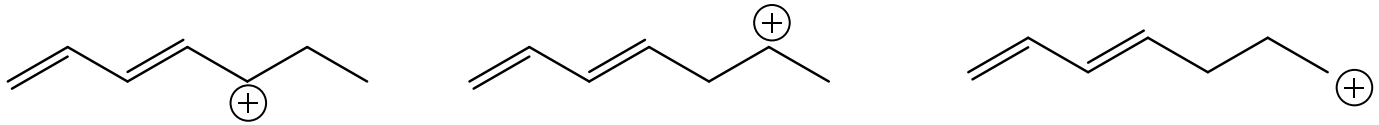
(I)



(II)



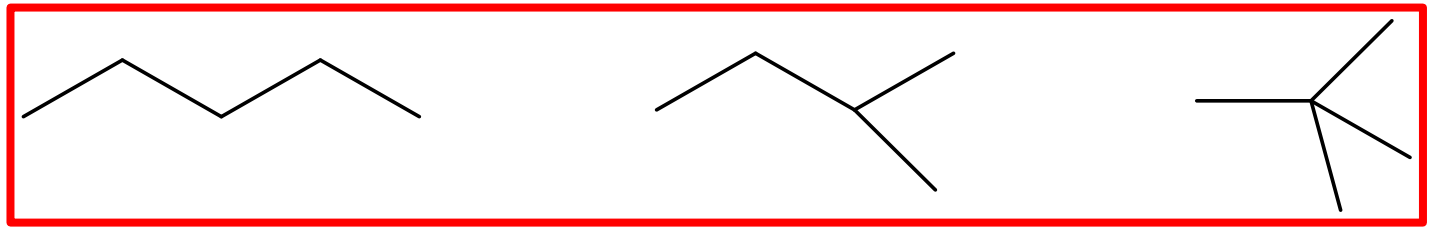
(III)



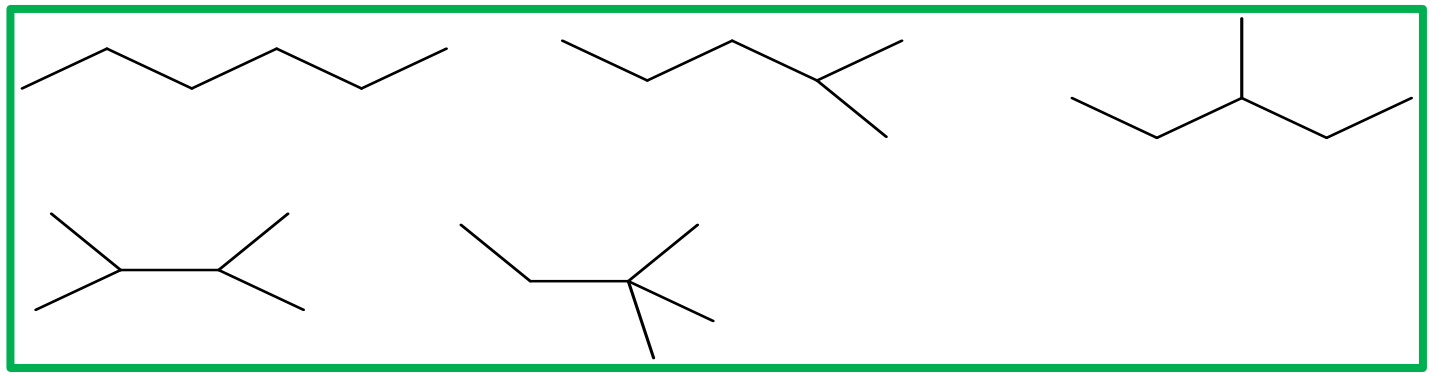
Να γραφούν τα συντακτικά ισομερή των ενώσεων με μοριακούς τύπους:

C_5H_{12} C_6H_{14} $C_5H_{11}Cl$ C_5H_{10} C_5H_9Br

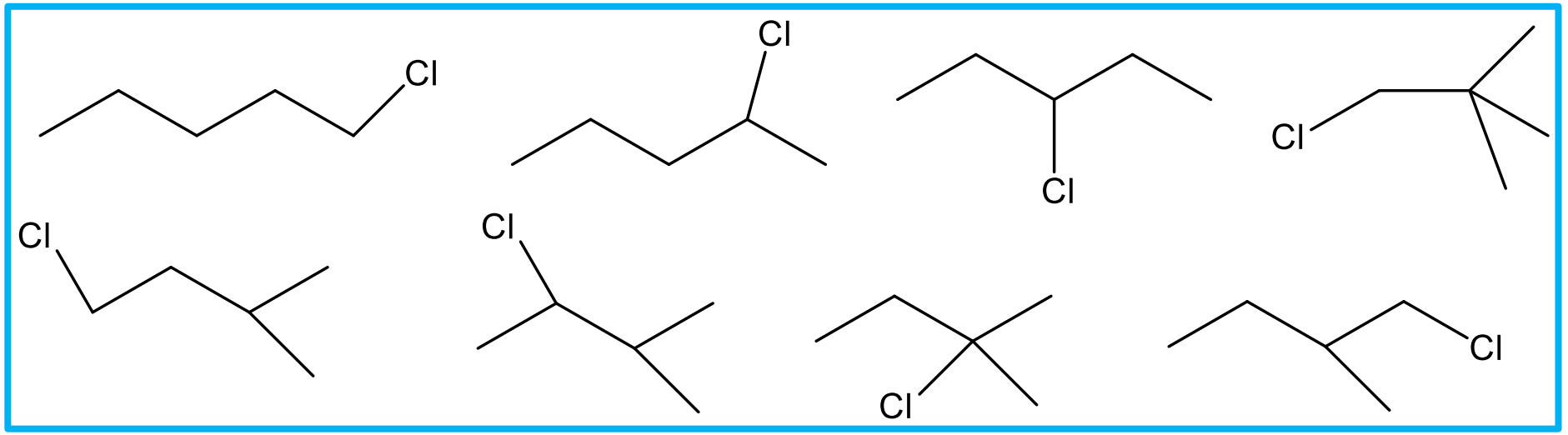
C_5H_{12}



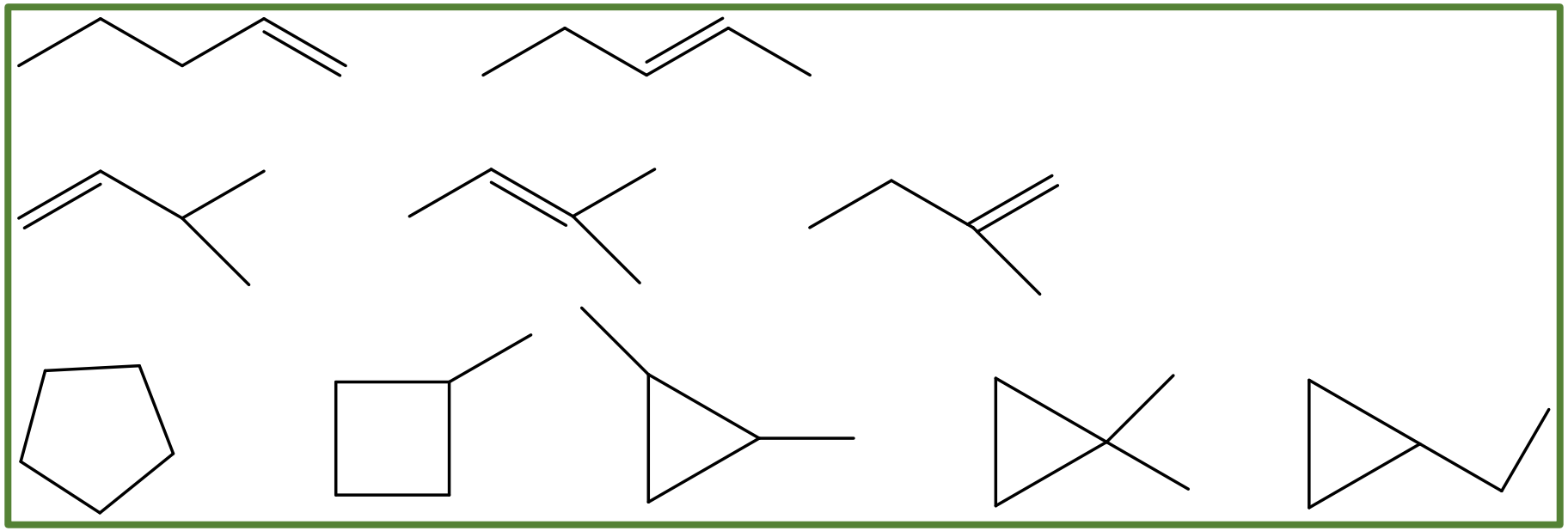
C_6H_{14}



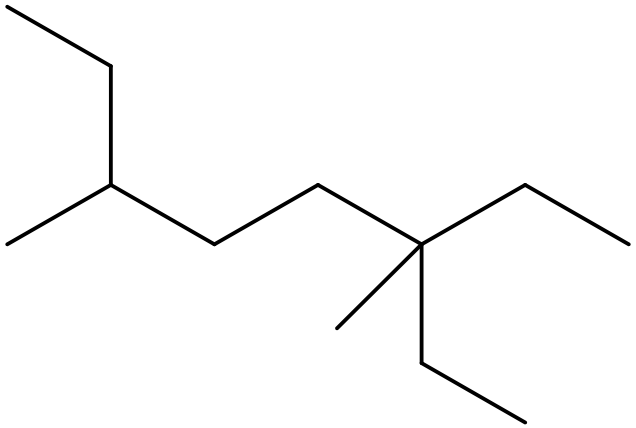
$C_5H_{11}Cl$

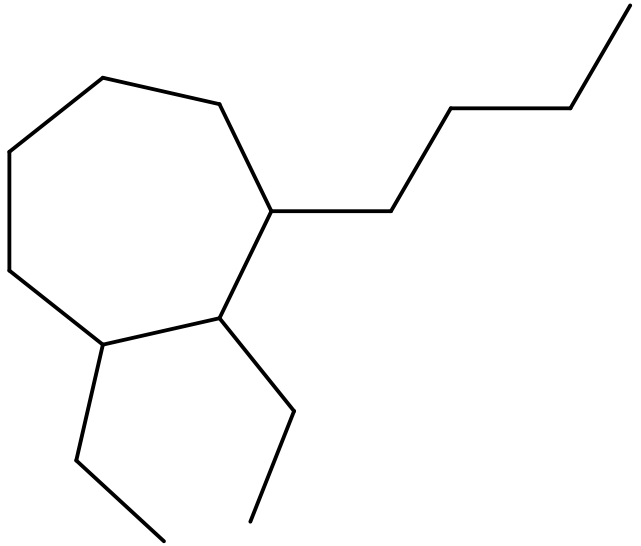


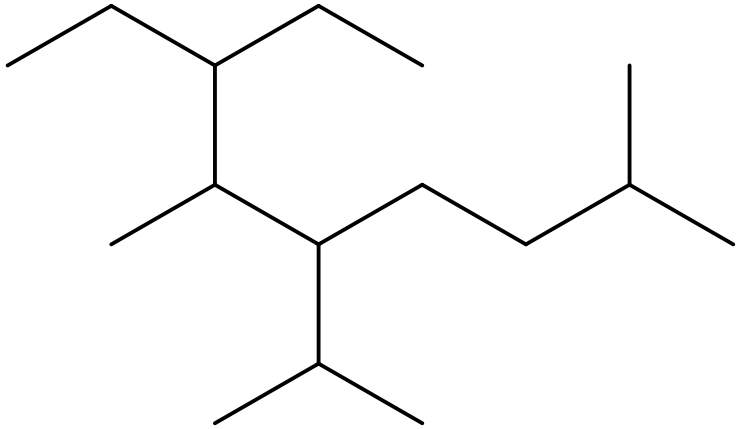
C_5H_{10}

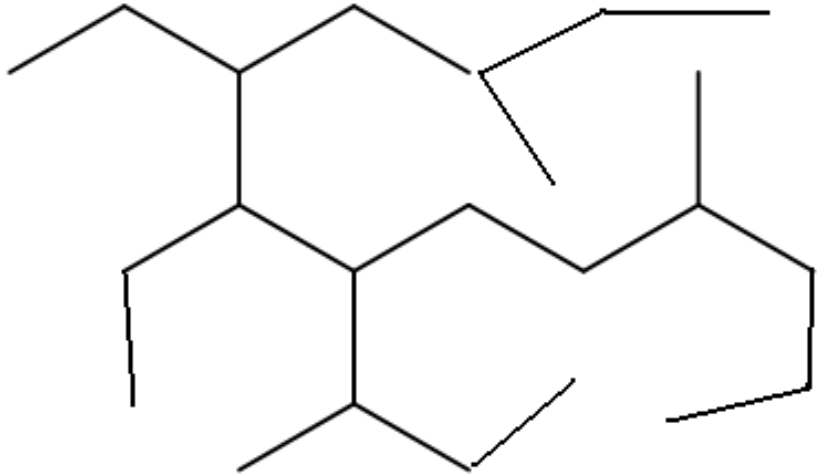


Να ονομασθεί ο μητρικός σκελετός των παρακάτω ενώσεων:

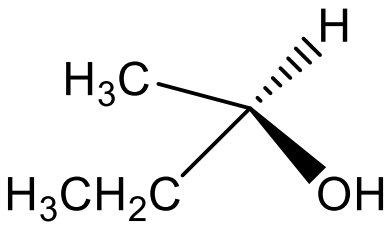


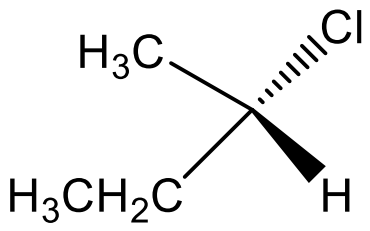


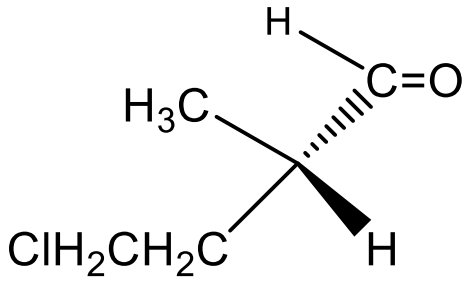


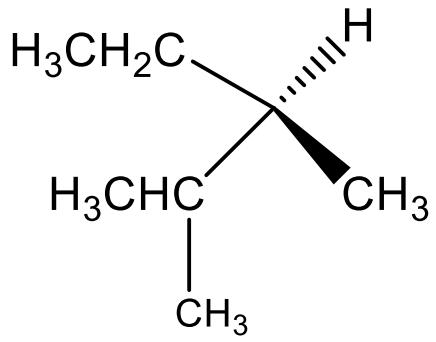


Ποια είναι η απεικόνιση των παρακάτω ενώσεων;









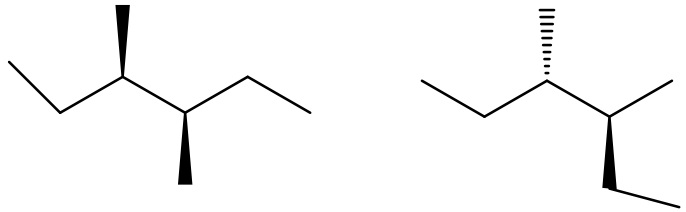
Προσδιορίστε αν το καθένα από τα παρακάτω ζεύγη αποτελείται από εναντιομερή ή διαστερεομερή.

I)

II)

III)

IV)



-Εάν καθαρό *R* εναντιομερές έχει ειδική στροφή +30 βαθμούς, ποια θα ήταν η στροφή όταν θα έχετε ένα μείγμα με αναλογία *R*/*S* = 40/60;

20% Εναντιομερής περίσσεια του *S*-.

$$\%\ ee = \frac{|\ \text{παρατηρούμενη α}\ |}{|\ \text{α του καθαρού εναντιομερούς}|} \times 100\%$$

[a] = 20% x 30 = 6 : Ειδική στροφή -6 βαθμοί.

-Ένα διάλυμα περιέχει ένα ζεύγος εναντιομερών Α και Β. Αν το διάλυμα αυτό περιέχει 85% από το Α και 15% από το Β, ποια είναι η % ee αυτού του διαλύματος;

Εναντιομερής περίσσεια του Α = 85-15% = 70%.