

## Rešitve

1.

	Racionalna formula	Ime spojine	Vrsta alkohola	
a)	$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$	pentan-1-ol	primarni	1 T
b)	$\begin{array}{c} \text{CH}_3\text{CH}_2\text{CH}_2\text{CHCH}_3 \\   \\ \text{OH} \end{array}$	pentan-2-ol	sekundarni	1 T
c)	$\begin{array}{c} \text{CH}_3\text{CH}_2\text{CHCH}_2\text{CH}_3 \\   \\ \text{OH} \end{array}$	pentan-3-ol	sekundarni	1 T
d)	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3-\text{CHCH}_2\text{CH}_2\text{OH} \end{array}$	3-metilbutan-1-ol	primarni	1 T
e)	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3-\text{CH}-\text{CH}-\text{CH}_3 \\   \\ \text{OH} \end{array}$	3-metilbutan-2-ol	sekundarni	1 T
f)	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{CH}_3 \\   \\ \text{OH} \end{array}$	2-metilbutan-2-ol	terciarni	1 T
g)	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_2-\text{CH}-\text{CH}_2-\text{CH}_3 \\   \\ \text{OH} \end{array}$	2-metilbutan-1-ol	primarni	1 T
h)	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3-\text{C}-\text{CH}_2\text{OH} \\   \\ \text{CH}_3 \end{array}$	2,2-dimetilpropan-1-ol	primarni	1 T

Vsak v celoti pravičen odgovor se točkuje z 1 T.

**Skupaj: 8 T**

2.

	Spojina	Stereoizomer		Razlika v fizikalnih lastnostih	
a)	$\begin{array}{c} \text{COOH} \\   \\ \text{H} - \text{C} - \text{NH}_2 \\   \\ \text{CH}_2\text{SH} \end{array}$	$\begin{array}{c} \text{COOH} \\   \\ \text{H}_2\text{N} - \text{C} - \text{H} \\   \\ \text{CH}_2\text{SH} \end{array}$	2 T	enantiomera, ni razlike	1 T
b)	$\begin{array}{c} \text{CHO} \\   \\ \text{H} - \text{C} - \text{OH} \\   \\ \text{H} - \text{C} - \text{OH} \\   \\ \text{CH}_2\text{OH} \end{array}$	$\begin{array}{c} \text{CHO} \\   \\ \text{HO} - \text{C} - \text{H} \\   \\ \text{HO} - \text{C} - \text{H} \\   \\ \text{CH}_2\text{OH} \end{array}$ <hr style="border-top: 1px dashed black;"/> $\begin{array}{c} \text{CHO} \\   \\ \text{HO} - \text{C} - \text{H} \\   \\ \text{H} - \text{C} - \text{OH} \\   \\ \text{CH}_2\text{OH} \\ \text{CHO} \\   \\ \text{H} - \text{C} - \text{OH} \\   \\ \text{HO} - \text{C} - \text{H} \\   \\ \text{CH}_2\text{OH} \end{array}$	2 T	enantiomera, ni razlike  diastromera, je razlika	1 T
c)	$\begin{array}{c} \text{H}_3\text{C} \quad \text{H} \\ \diagdown \quad / \\ \text{C} = \text{C} \\ / \quad \diagdown \\ \text{H} \quad \text{Br} \end{array}$	$\begin{array}{c} \text{H}_3\text{C} \quad \text{Br} \\ \diagdown \quad / \\ \text{C} = \text{C} \\ / \quad \diagdown \\ \text{H} \quad \text{H} \end{array}$	2 T	geometrijska izomera, je razlika	1 T

(Vsak pravilen stereoizomer je 2 T, vsaka pravilna razlika v fizikalnih lastnostih je 1 T)

**Skupaj: 9 T**

3.

Spojina	Topnost v vodi	Topnost v heksanu	Vrstni red glede na T <sub>v</sub>	
metanol	topen 1 T	topen 1 T	1	2 T
butan-2-on	delno topen 1 T	topen 1 T	2	
heptan	zelo slabo topen 1 T	topen 1 T	3	
oktan-1-ol	zelo slabo topen 1 T	topen 1 T	4	
oktanojska kislina	zelo slabo topna 1 T	topen 1 T	5	

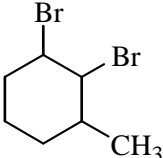
(Vsaka pravilna trditev topnosti 1 T, pravilen vrstni red za naraščajočo T<sub>v</sub> 2 T)**Skupaj: 12 T**

4.

a)	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\   \quad   \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{C}-\text{CH}_3 \\   \quad   \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	2 T
b)	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\   \quad   \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{C}-\text{CH}_2\text{Cl} \\   \quad   \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	2 T
	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\   \quad   \\ \text{CH}_3-\text{C}-\text{CH}-\text{C}-\text{CH}_3 \\   \quad   \quad   \\ \text{CH}_3 \quad \text{Cl} \quad \text{CH}_3 \end{array}$	2 T
c)	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\   \quad   \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{C}-\text{CHCl}_2 \\   \quad   \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	1 T
	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_2\text{Cl} \\   \quad   \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{C}-\text{CH}_2\text{Cl} \\   \quad   \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	1 T
	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\   \quad   \\ \text{CH}_3-\text{C}-\text{CH}-\text{C}-\text{CH}_2\text{Cl} \\   \quad   \quad   \\ \text{CH}_3 \quad \text{Cl} \quad \text{CH}_3 \end{array}$	1 T
	$\begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\   \quad   \\ \text{ClCH}_2-\text{C}-\text{CH}_2-\text{C}-\text{CH}_2\text{Cl} \\   \quad   \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	1 T
	$\begin{array}{c} \text{CH}_3 \quad \text{Cl} \quad \text{CH}_3 \\   \quad   \quad   \\ \text{CH}_3-\text{C}-\text{C}-\text{C}-\text{CH}_3 \\   \quad   \quad   \\ \text{CH}_3 \quad \text{Cl} \quad \text{CH}_3 \end{array}$	1 T

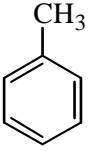
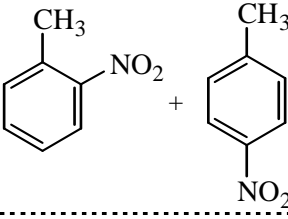
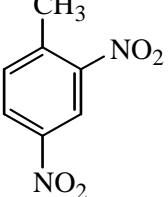
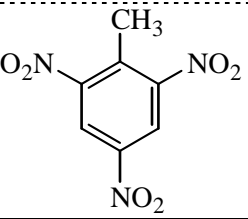
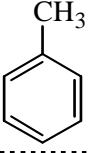
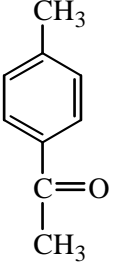
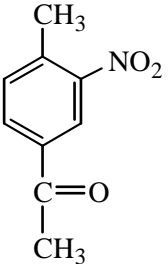
Skupaj: 11 T

5.

a)	$\text{CH}_3-\text{CH}_2-\underset{\text{Br}}{\text{CH}}-\text{CH}_3$	2 T
b)	$\text{CH}_3-\underset{\text{Br}}{\text{CH}}-\text{CH}_3$	2 T
c)	$\text{CH}_3-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{CH}_3 + \text{CH}_3-\text{CH}_2-\text{CH}_2-\underset{\text{OH}}{\text{CH}}-\text{CH}_3$	1 T + 1 T
d)		2 T

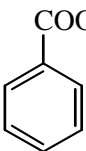
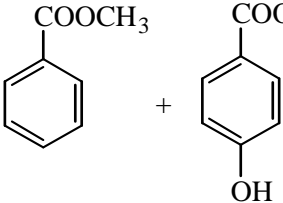
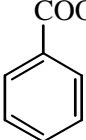
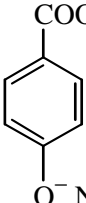
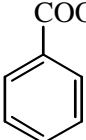
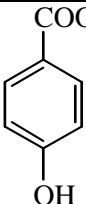
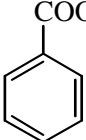
Skupaj: 8 T

6.

a)	A		1 T
	B		1 T
	C		1 T
	D		1 T
b)	A		1 T
	B		1 T
	C		1 T

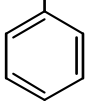

Skupaj: 7 T

7.

A	 $\text{COO}^- \text{Na}^+$ v H <sub>2</sub> O	2 T
B	 $\text{COOCH}_3$ $\text{COOCH}_3$ +      v etru OH	2 T
C	 COOH	2 T
D	 $\text{COOCH}_3$ v H <sub>2</sub> O $\text{O}^- \text{Na}^+$	2 T
E	 $\text{COOCH}_3$ v etru	2 T
F	 $\text{COOCH}_3$ OH	2 T
G	 $\text{COOCH}_3$	2 T

Skupaj: 14 T

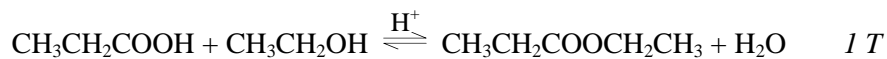
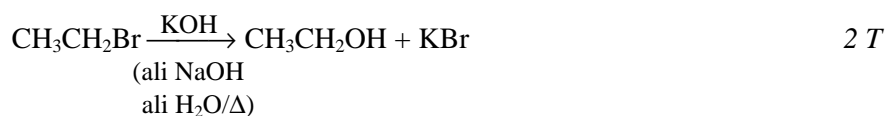
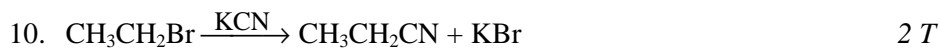
8.

a)	$\text{COOH}$ 	2 T
	<p>Ker je spojina netopna v vodi mora vsebovati več kot pet ogljikovih atomov.</p> <p>Topnost ob dodatku <math>\text{NaHCO}_3</math> je povezana z nastankom soli natrijevega benzoata.</p> <p>Da gre za benzojsko kislino je razvidno iz oksidativne razgradnje, pri kateri iz 1 mol spojine nastane 7 mol <math>\text{CO}_2</math> in 3 mol <math>\text{H}_2\text{O}</math>.</p>	1 T
b)	$\text{CH}_3\text{I}$	2 T
	<p>Iz rahle rožnate obarvanosti na svetlobi in reakciji z <math>\text{AgNO}_3</math> je razvidno, da je spojina alkil jodid.</p> <p>Iz masnih deležev za ogljik in vodik je razvidno, da je spojina metil jodid.</p>	1 T
c)	$\begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_3 \\   \\ \text{OH} \end{array}$	2 T
	<p>Iz reakcije z <math>\text{NaOH}</math> in <math>\text{Na}</math> je razvidno, da je spojina alkohol.</p> <p>Iz produkta oksidacije in testa na nastalo spojino je razvidno, da je spojina sekundarni alkohol, torej da je produkt oksidacije keton. Od ketonov je najpomembnejše topilo acetone (propan-2-on).</p>	1 T
d)	$\text{OH}$ 	2 T
	<p>Ključna informacija je, da pri reakciji z bromovico izpade bela oborina, to je 2,4,6-tribromofenol.</p>	1 T

**Skupaj: 12 T**

9.

Spojina	Racionalna formula	
A	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{CH}_3 \\   \\ \text{CH}_3 \end{array}$	2 T
B	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{CH}_2\text{Br} \\   \\ \text{CH}_3 \end{array}$	2 T
C	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{CH}_2\text{OH} \\   \\ \text{CH}_3 \end{array}$	2 T
D	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{COOH} \\   \\ \text{CH}_3 \end{array}$	2 T
E	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{COCl} \\   \\ \text{CH}_3 \end{array}$	2 T
F	$\begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_3 - \text{C} - \text{C} - \text{NH}_2 \\   \quad \parallel \\ \text{CH}_3 \quad \text{O} \end{array}$	2 T

**Skupaj: 12 T****Skupaj: 7 T****Vse skupaj: 100 T**