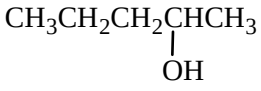
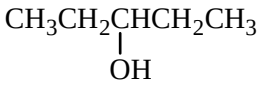
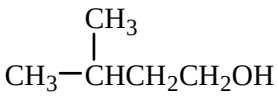
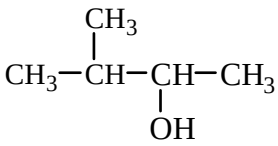
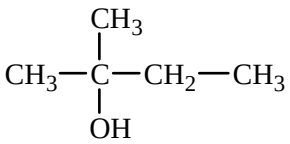
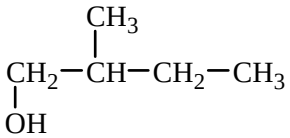
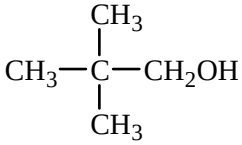
Rešitve

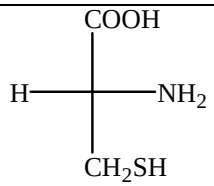
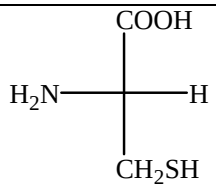
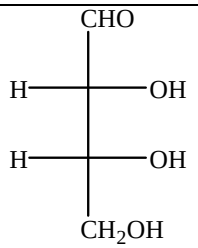
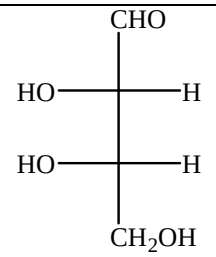
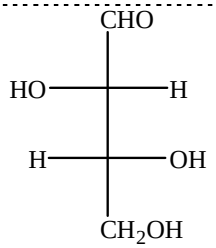
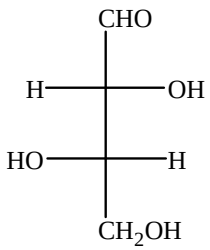
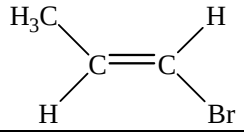
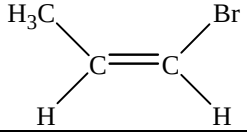
1.

	Racionalna formula	Ime spojine	Vrsta alkohola	
a)	$CH_3CH_2CH_2CH_2CH_2OH$	pentan-1-ol	primarni	*1 T*
b)		pentan-2-ol	sekundarni	*1 T*
c)		pentan-3-ol	sekundarni	*1 T*
d)		3-metilbutan-1-ol	primarni	*1 T*
e)		3-metilbutan-2-ol	sekundarni	*1 T*
f)		2-metilbutan-2-ol	terciarni	*1 T*
g)		2-metilbutan-1-ol	primarni	*1 T*
h)		2,2-dimetilpropan-1-ol	primarni	*1 T*

Vsak v celoti pravilen odgovor se točkuje z *1 T*.

Skupaj: 8 T

2.

	Spojina	**Stereoizomer**		**Razlika v fizikalnih lastnostih**	
a)			*2 T*	**enantiomera, ni razlike**	*1 T*
b)			*2 T*	**enantiomera, ni razlike**	*1 T*
				**diasteromera, je razlika**	
					
c)			*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

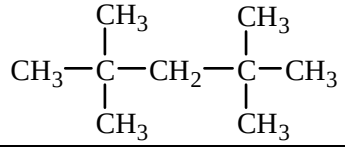
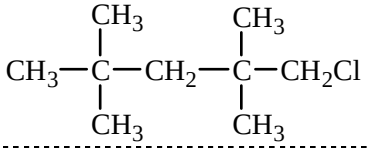
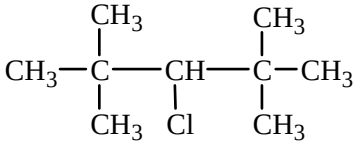
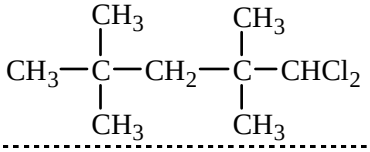
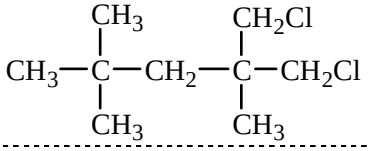
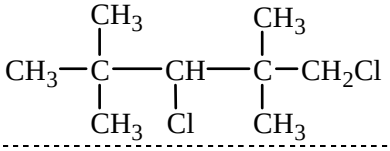
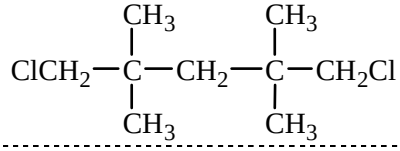
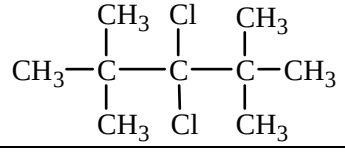
3.

Spojina	Topnost v vodi	Topnost v heksanu	Vrstni red glede na T_v	
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_v *2 T*)

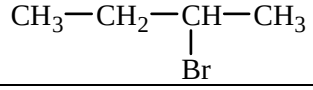
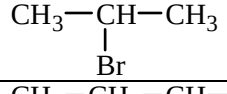
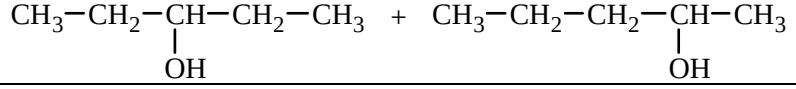
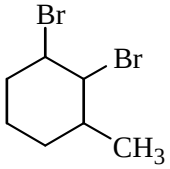
Skupaj: 12 T

4.

a)		*2 T*
b)		*2 T*
		*2 T*
c)		*1 T*
		*1 T*
		*1 T*
		*1 T*
		*1 T*

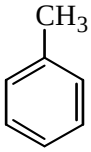
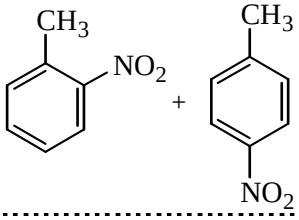
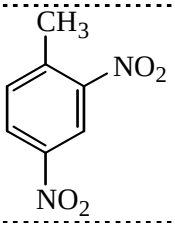
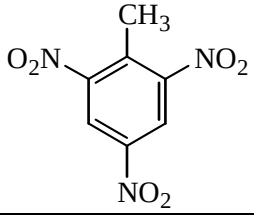
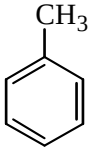
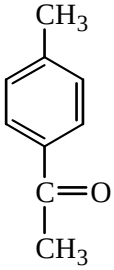
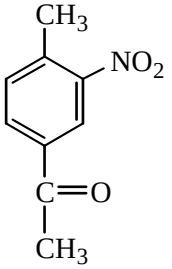
Skupaj: 11 T

5.

a)		*2 T*
b)		*2 T*
c)		*1 T + 1 T*
d)		*2 T*

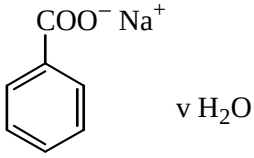
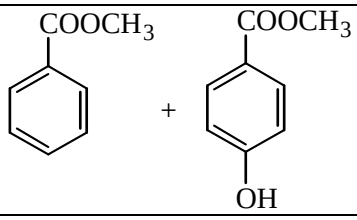
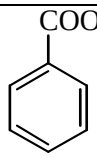
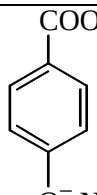
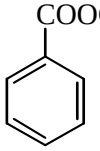
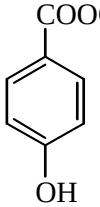
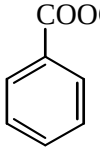
Skupaj: 8 T

6.

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

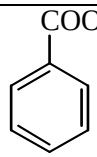
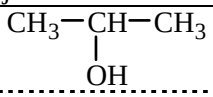
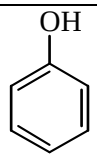
Skupaj: 7 T

7.

A	 v H_2O	*2 T*
B	 + v etru	*2 T*
C		*2 T*
D	 v H_2O	*2 T*
E	 v etru	*2 T*
F		*2 T*
G		*2 T*

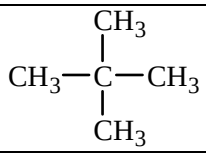
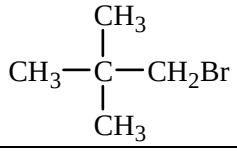
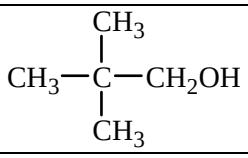
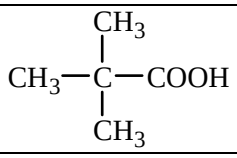
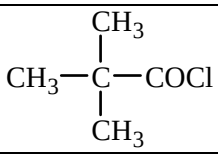
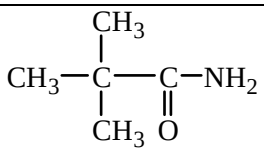
Skupaj: 14 T

8.

a)		*2 T*
	Ker je spojina netopna v vodi mora vsebovati več kot pet ogljikovih atomov. Topnost ob dodatku $NaHCO_3$ je povezana z nastankom soli natrijevega benzoata. Da gre za benzojsko kislino je razvidno iz oksidativne razgradnje, pri kateri iz 1 mol spojine nastane 7 mol CO_2 in 3 mol H_2O.	*1 T*
b)	CH_3I	*2 T*
	Iz rahle rožnate obarvanosti na svetlobi in reakciji z $AgNO_3$ je razvidno, da je spojina alkil jodid. Iz masnih deležev za ogljik in vodik je razvidno, da je spojina metil jodid.	*1 T*
c)		*2 T*
	Iz reakcije z NaOH in Na je razvidno, da je spojina alkohol. Iz produkta oksidacije in testa na nastalo spojino je razvidno, da je spojina sekundarni alkohol, torej da je produt oksidacije keton. Od ketonov je najpomembnejše topilo aceton (propan-2-on).	*1 T*
d)		*2 T*
	Ključna informacija je, da pri reakciji z bromovico izpade bela oborina, to je 2,4,6-tribromofenol.	*1 T*

Skupaj: 12 T

9.

Spojina	Racionalna formula	
A		*2 T*
B		*2 T*
C		*2 T*
D		*2 T*
E		*2 T*
F		*2 T*

Skupaj: 12 T

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10. $CH_3CH_2Br \xrightarrow{KCN} CH_3CH_2CN + KBr$ *2 T*

$CH_3CH_2Br \xrightarrow[\text{(ali NaOH ali } H_2O/\Delta)]{KOH} CH_3CH_2OH + KBr$ *2 T*

$CH_3CH_2CN \xrightarrow{H_2O/H^+} CH_3CH_2COOH$ *2 T*

$CH_3CH_2COOH + CH_3CH_2OH \overset{H^+}{\rightleftharpoons} CH_3CH_2COOCH_2CH_3 + H_2O$ *1 T*

Skupaj: 7 T

Vse skupaj: 100 T