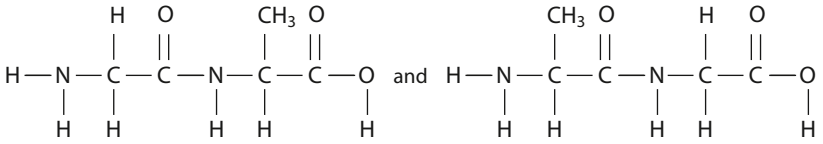
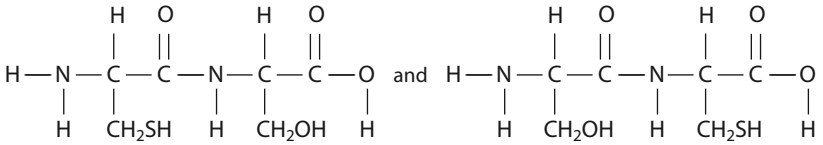
Answers to Option B test yourself questions

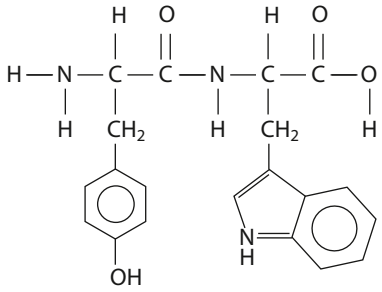
1 a



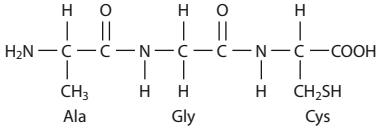
b



2



3



4 Asp–His–Leu; Asp–Leu–His; His–Asp–Leu; His–Leu–Asp; Leu–Asp–His; Leu–His–Asp

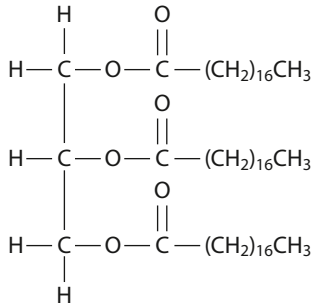
5 Phenylalanine (Phe); serine (Ser); histidine (His); alanine (Ala)

6 A: 0.24
B: 0.67
C: 0.49
D: 0.89
E: 0.38

7 Arginine and lysine

8 All are false (A is partially true)

9



10 $CH_3(CH_2)_{14}COOH$; $CH_3(CH_2)_{18}COOH$; $CH_3(CH_2)_{20}COOH$; and $CH_2(OH)CH(OH)CH_2(OH)$

11 $C_{17}H_{33}COOH < C_{17}H_{35}COOH < C_{19}H_{39}COOH < C_{21}H_{43}COOH$

12 **a** saturated; **b** polyunsaturated; **c** monounsaturated

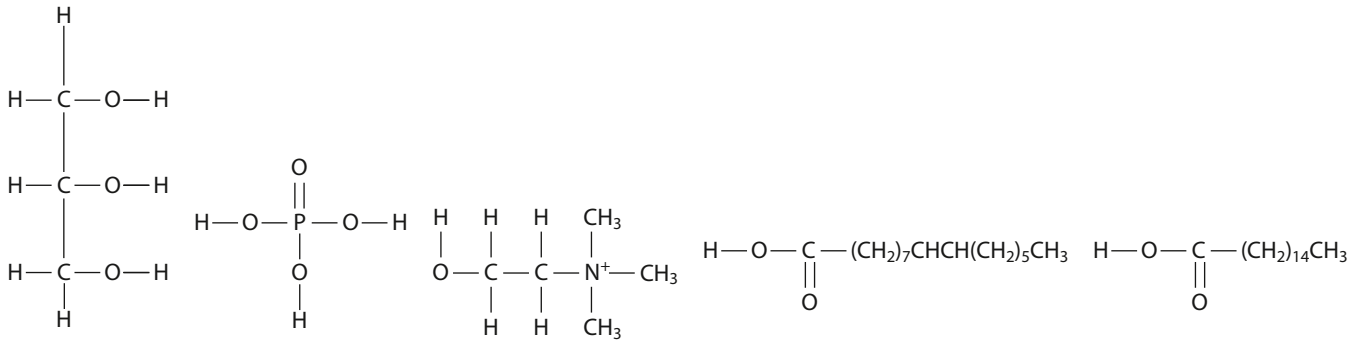
13 **a** 180; **b** 20; **c** 100

14 **a** 0 double bonds; iodine number 0
b 4; 409
c 1; 90
d 2; 165

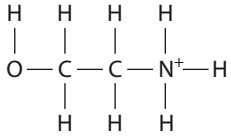
15 One C=C bond

16 Two C=C bonds

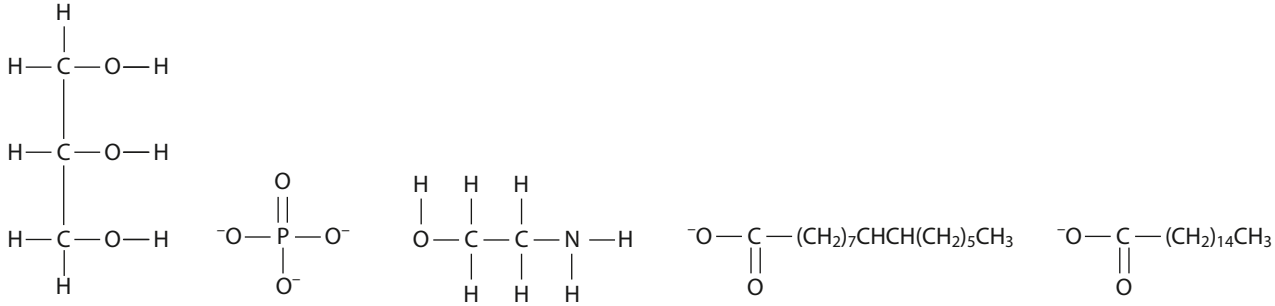
17



18



19



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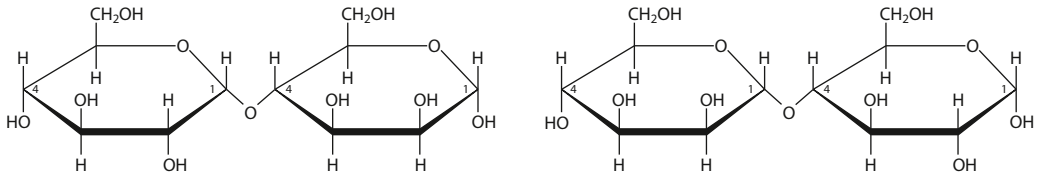
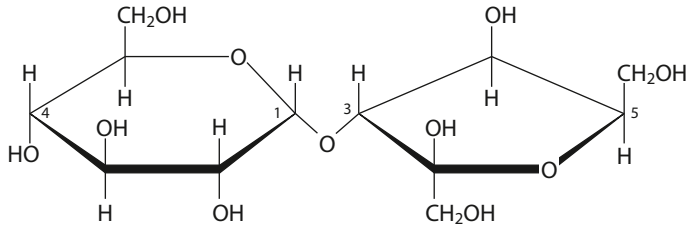


21



22 **a** fat-soluble; **b** water-soluble

23 **a** 31.71%; **b** 19.72%; **c** 81.32%

24 $V_{max} = 6.0 \times 10^{-4}\,mol\,dm^{-3}\,s^{-1}$ (60×10^{-5})
$K_m = 3 \times 10^{-4}\,mol\,dm^{-3}$ (0.3×10^{-3})
[answers in range $3–4 \times 10^{-4}\,mol\,dm^{-3}$]

25 X

26 **a** 4.82; **b** 4.47; **c** 4.98; **d** 4.76; **e** 4.46; **f** 8.95

27 **a** $0.275\,mol\,dm^{-3}$; **b** 4.19

28 **a** 4.8 ppm; **b** 2.8 ppm; **c** 7.2 ppm

29 **a** $6.2 \times 10^{-4}\,mol\,dm^{-3}$; **b** $3.6 \times 10^{-3}\,mol\,dm^{-3}$;
c $1.8 \times 10^{-4}\,mol\,dm^{-3}$

30 **a** A–A–G–C–C–T–G
b T–T–T–G–C–G–G–A–T–A–A–A–C–T–G–G

31 **a** A–G–U–U–C–A
b C–C–C–A–A–U–G–A–C–G–G–U

32 B (longer conjugated system)

33 **a** false; **b** true; **c** false; **d** true; **e** true; **f** false

34 **a** L; **b** D; **c** D

35 **a** D; **b** L; **c** D

36 Alpha

37 Condensation; α-1,4-glycosidic linkage