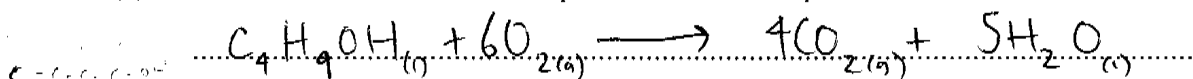


Question 23 (3 marks)

- (a) Write a balanced chemical equation for the complete combustion of 1-butanol. 1

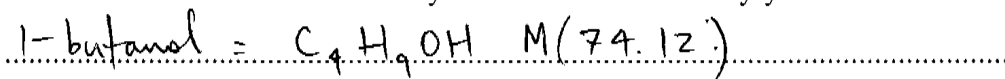


- (b) A student measured the heat of combustion of three different fuels. The results are shown in the table. 2

Fuel	Heat of combustion (kJ g ⁻¹)
A	-48
B	-38
C	-28

The published value for the heat of combustion of 1-butanol is 2676 kJ mol⁻¹.

Which fuel from the table is likely to be 1-butanol? Justify your answer.



$2676 \div 74.12 = 36.16 \dots$

therefore

fuel B is most likely to be 1-butanol