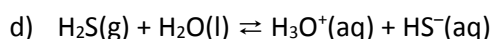
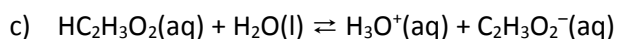
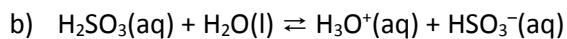
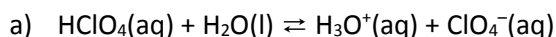
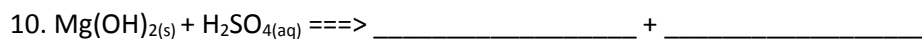
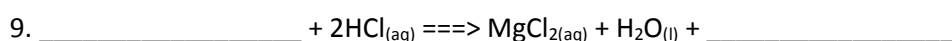
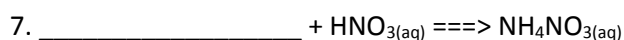
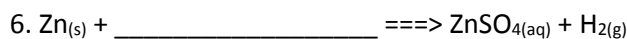
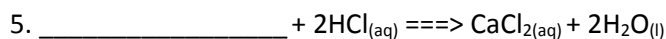
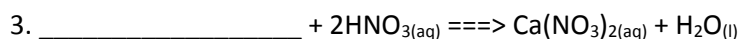
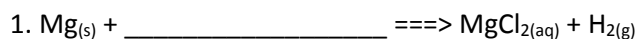


CHEMISTRY Summer Booklet for 10 IB 2017-2018

I. Identify the acid, base, conjugate acid and conjugate base for each of the following.



II. Complete the following reaction



III. a) Give the molecular formula, the structural formula, the condensed structural formula, and the abbreviated line formula for pentane.

Molecular formula:

Structural formula:

Condensed structural formula:

Abbreviated line formula:

- b) Give the molecular formula, the structural formula, the condensed structural formula, and the abbreviated line formula for octane.

Molecular formula:

Structural formula:

Condensed structural formula:

Abbreviated line formula:

IV. Draw and name four isomers of octane.

V. Determine the empirical and molecular formula for the following compound using the mass percentages of 65.45 % (C), 5.49 % (H) and 29.06 (O), whose molar mass =110?

VI. A compound has the following percentage mass composition:

40.0% carbon, 6.71% hydrogen, and 53.3% oxygen.

Its molar mass is 180.2 g/mole. Determine its molecular formula.

VII. Complete the following table.

Symbol	Protons	Neutrons	Electrons	Charge
	8	9		0
		77	54	0
$^{207}_{82}\text{Pb}$				
		12	12	+1
	38	50		0
		14	10	+3

VIII. Predict the type of *intramolecular* and *intermolecular* forces of attraction present.

Substance	Intramolecular attraction	Intermolecular attraction
NaF		
H ₂ S		
Cl ₂		
HCl		
LiBr		

IX. Draw the Lewis structures for the following compounds:



X. Name each of the following compounds:

(i) HBr:

(ii) CS₂:

(iii) PbCl₂:

(iv) CaF₂:

(v) NH₄NO₃:

(vi) N₂O₄:

(vii) N₂O₅: