

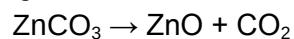
Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.



Ignore state symbols.

If equation incorrect, allow one mark only for correct atom economy method.

1

Percentage atom economy =

Mark consequentially for incorrect formula mass(es)

1

$$\frac{81.4}{125.4} \times 100 = 64.9$$

Accept answer to at least 2 significant figures

1

[3]

Q2.

(a) Compound 1

If M1 incorrect, CE = 0

M1
1

No visible change with H_2SO_4

M2
1

Gives white ppt with NaOH

M3
1

(b) BaCO_3

1

The carbonate ion releases CO_2

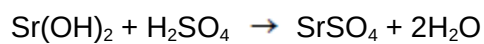
1

but the BaSO_4 formed is highly insoluble.

1

(c) Compound 4

1



Allow ionic equation; ignore state symbols

1

[8]

Q3.

(a) 0.155 g per 100 cm³

M1

Allow 0.153 – 0.157

1

$(0.155 / 74.1) \times 10 = 0.0209 \text{ mol dm}^{-3}$

M2

Allow 0.0206 – 0.0212

1

Answer to 3 significant figures

M3

The correct answer only loses M1

1

(b) Take a known volume of the saturated solution

1

Evaporate the filtrate to dryness

Allow titrate with dilute HCl or HNO₃

1

Weigh the residue

.....of known / specified concentration

Ignore any references to indicators

1

[6]