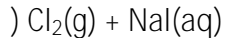
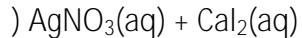
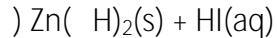


2.2 μ μ ()

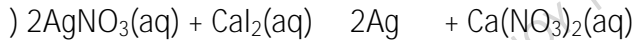
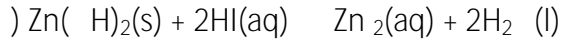
μ



(μ 9)

(μ 4)

2.2.



μ

I₂.

μ 2

2.1. μ ()

μ

) $\text{Cl}_2(\text{g}) + \text{HBr}(\text{aq})$

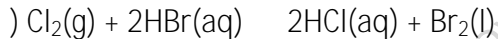
) $\text{AgNO}_3(\text{aq}) + \text{NaBr}(\text{aq})$

) $\text{Ca}(\text{OH})_2(\text{aq}) + \text{H}_2\text{SO}_4(\text{aq})$

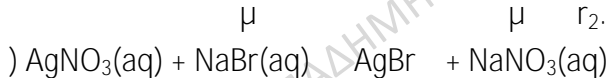
(μ 9)

(μ 4)

2.1.

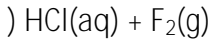
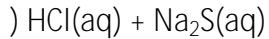
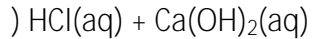


Cl_2



2.2 μ μ ()

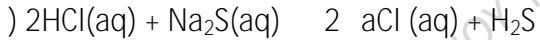
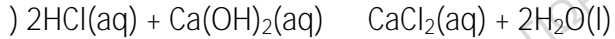
μ



(μ 9)

(μ 4)

2.2



H_2S .



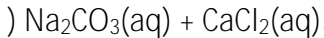
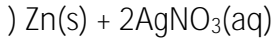
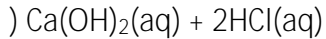
μ

Cl_2 .

F_2

2.2. μ μ ()

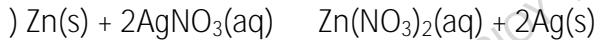
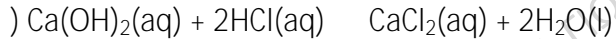
μ



(μ 9)

(μ 4)

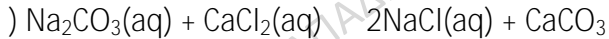
2.2.



Zn

μ

Ag.

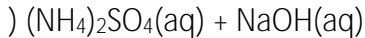
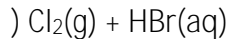
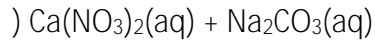


μ

CaCO₃.

2.2. μ μ ()

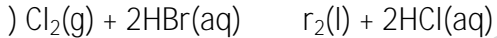
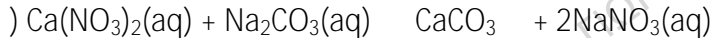
μ



(μ 9)

(μ 4)

2.1.



Cl₂

μ

μ

r₂.



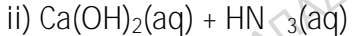
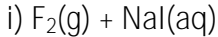
μμ

H₃.

)

μ

μ

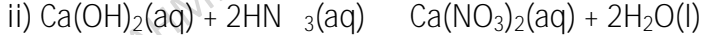


μ

μ

(μ

6)



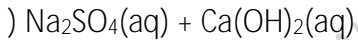
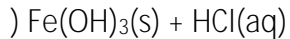
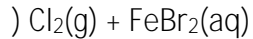
2.2.

μ

μ

(

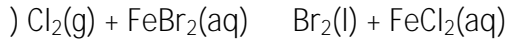
)



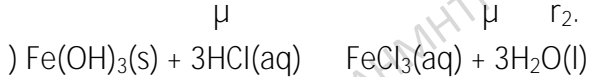
(μ 9)

(μ 4)

2.2.



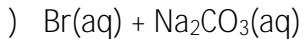
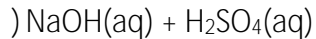
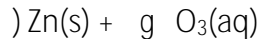
Cl_2



μ

CaSO_4 .

2.2. μ μ ()



(μ 9)

(μ 4)

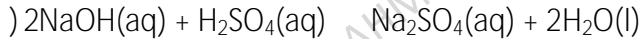
2.2.



μ

μ

Ag.



CO₂.

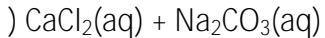
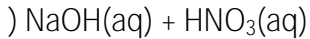
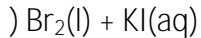
2.2.

μ

μ

(

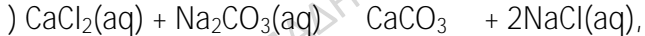
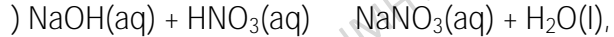
)



(μ 9)

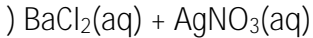
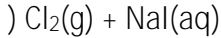
(μ 3)

2.2.



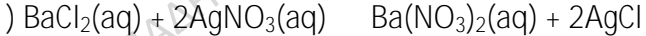
) μ μ μ

, μ :



(μ 6)

)



μ 2

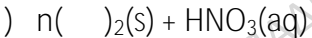
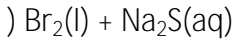
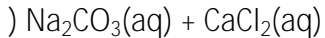
2.1.

μ

μ

μ

μ



(μ 9)

μ

μ

:

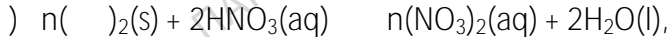
,

,

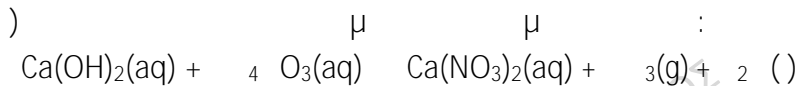
.

(μ 3)

2.1.

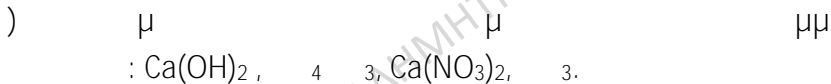


2.2.



) μ

μ



(μ 2)

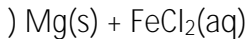
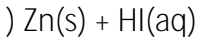
(μ 4)

) μ

μ

μ

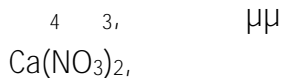
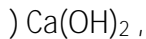
,



(μ 7)

2.2.

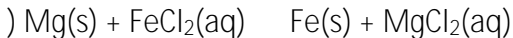
)



)



n



Mg

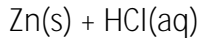
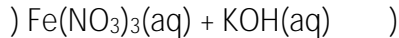
μ

Fe.

 μ

2.2. μ μ ()

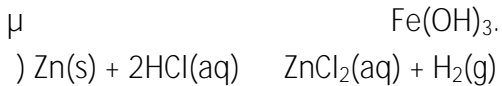
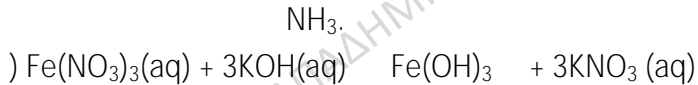
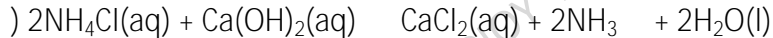
μ



(μ 9)

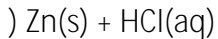
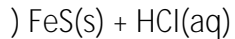
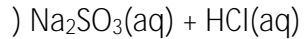
(μ 4)

2.2.



2.2. μ μ ()

μ



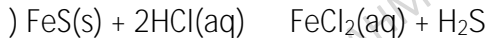
(μ 9)

(μ 4)

2.2.



ο S 2.



2.2. μ μ ()

μ

) Mg(s) + HBr(aq)

) KOH(aq) + HBr(aq)

) FeCl₂(aq) + K₂S(aq)

(μ 9)

(μ 4)

2.2.

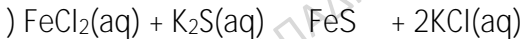
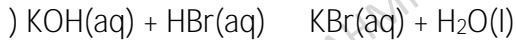


μ

μ

μ

Mg

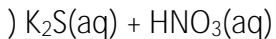
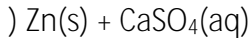
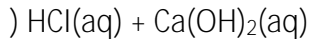


μ

() FeS.

2.2. μ μ ()

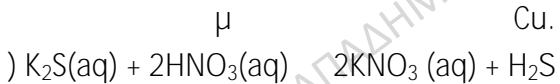
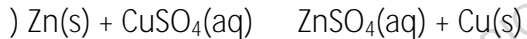
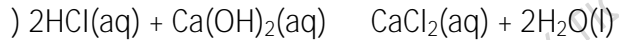
μ



(μ 9)

(μ 4)

2.2.



O_2

) μ

μ μ

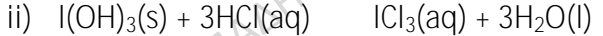
i) $\text{F}_2(\text{g}) + \text{KCl}(\text{aq})$

ii) $\text{I}(\text{OH})_3(\text{s}) + \text{HCl}(\text{aq})$

(μ

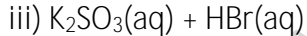
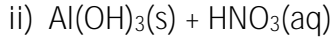
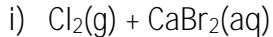
6)

)



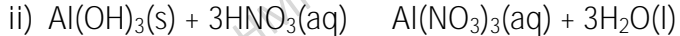
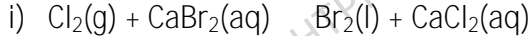
) μ μ

μ μ :

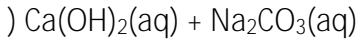
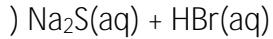
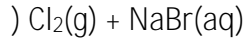


(μ 9)

)



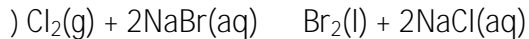
2.2. μ μ ()



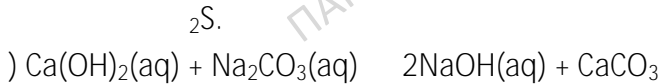
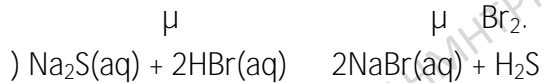
(μ 9)

(μ 4)

2.2.



Cl_2



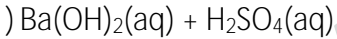
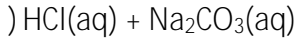
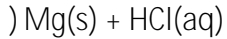
2.2.

μ

μ

(

)



(μ 9)

(μ 4)

2.2.



μ

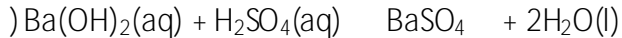
μ

μ

Mg



CO₂.



2.2

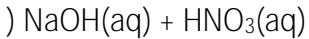
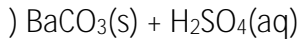
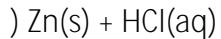
μ

μ

(

)

μ



(μ

9)

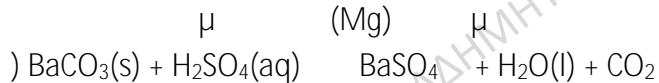
(μ

4)

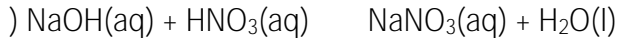
2.2



μ .



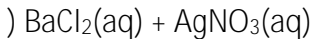
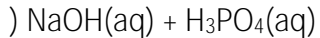
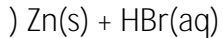
μ (BaSO₄) (CO₂).



μ

2.1. μ μ ()

μ



(μ 9)

(μ 4)

2.1.

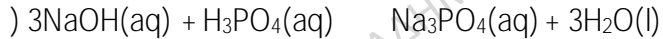


• () μ Zn

2

μ

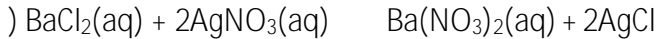
.



• μ () μ μ

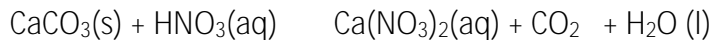
μ

.



2.2.

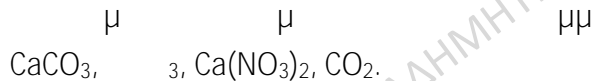
A) μ μ :



) μ μ

.

(μ 2)



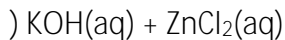
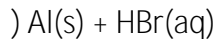
μ :

(μ 4)

) μ μ μ

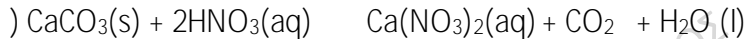
,

.



(μ 7)

2.2.



CaCO_3 —

HNO_3 —

$\text{Ca}(\text{NO}_3)_2$ —

CO_2 —

)

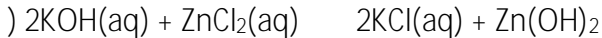


• () μ Al

2

μ

.



• () μ

$\text{Zn}(\text{OH})_2$

μ .

2.2.

μ

μ

(

)

μ

) AgNO₃(aq) + HBr(aq)

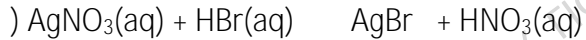
) Zn(s) + HCl(aq)

) KOH(aq) + HNO₃(aq)

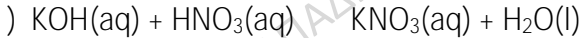
(μ 9)

(μ 4)

2.2.



• () μ ο AgBr μ .



• μ () μ μ .

2.2.

)

μ

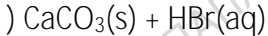
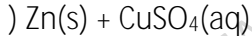
μ

μ

:

μ

μ



(μ

6)

2.2.

A)



B)

2.1.

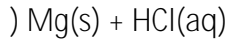
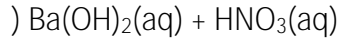
μ

μ

(

)

μ



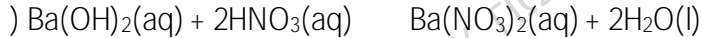
(μ

9)

(μ

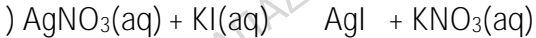
4)

2.1.



• () μ Mg

μ



• () μ AgI

μ

2.2.

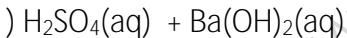
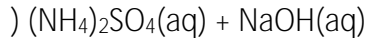
μ

μ

(

)

μ



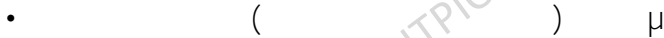
(μ

9)

(μ

4)

2.2.



3

μ .



μ

2

μ

.

2.2.

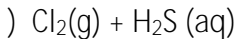
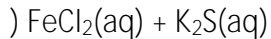
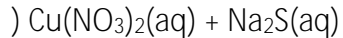
μ

μ

(

)

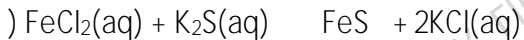
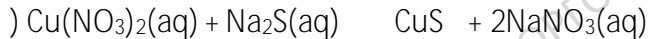
μ



(μ 9)

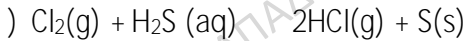
(μ 4)

2.2.



• () μ FeS

μ .



• () μ Cl_2

S μ Cl_2

μ S.

2.2.

)

μ

μ

) $\text{Al(s)} + \text{HCl(aq)}$

) $\text{NaOH(aq)} + \text{HBr(aq)}$

μ

:

μ

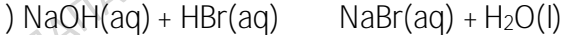
μ

(μ

6)

2.2.

A)



2.2.

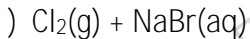
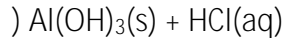
μ

μ

(

)

μ



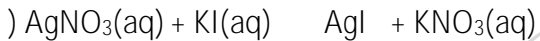
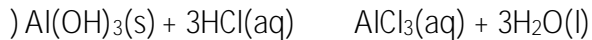
(μ

9)

(μ

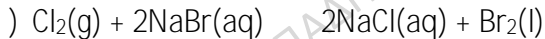
4)

2.2.



• () μ AgI

μ .



• () μ

μ

μ

μ

μ .

2.2.

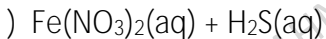
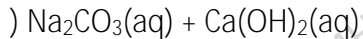
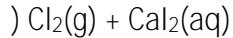
μ

μ

(

)

μ



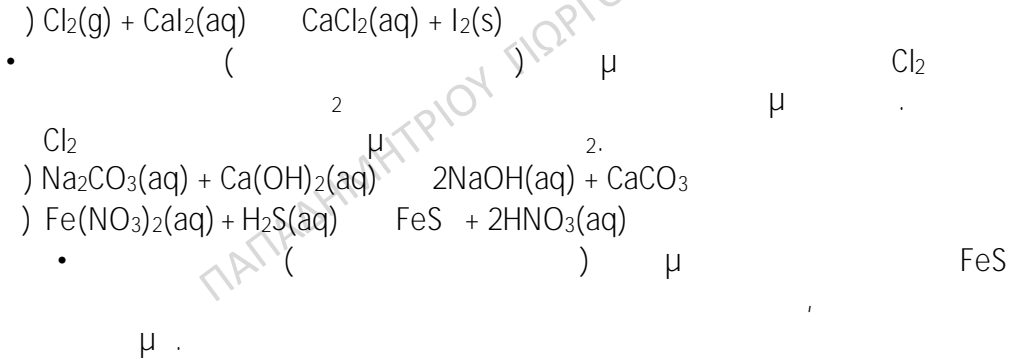
(μ

9)

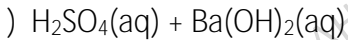
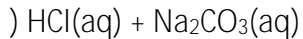
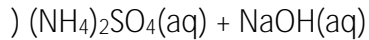
(μ

4)

2.2.



2.2. μ μ ()
 μ .



(μ 9)

(μ 4)

2.2.



• () μ



• () μ μ



2.1.

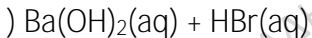
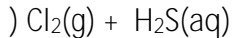
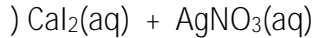
μ

μ

(

)

μ



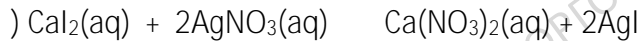
(μ

9)

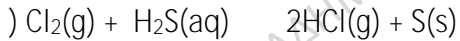
(μ

4)

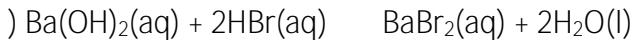
2.1.



• () μ , ο AgI
μ .

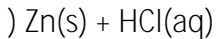
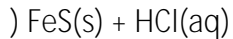
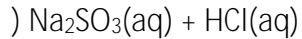


• () μ Cl₂
S μ
Cl₂ μ S.



2.2. μ μ ()

μ



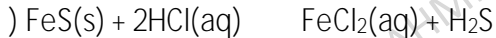
(μ 9)

(μ 4)

2.2.



• () μ SO₂
μ .



• () μ Zn
2 μ .

2.2.

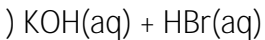
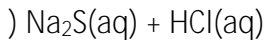
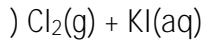
μ

μ

(

)

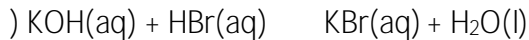
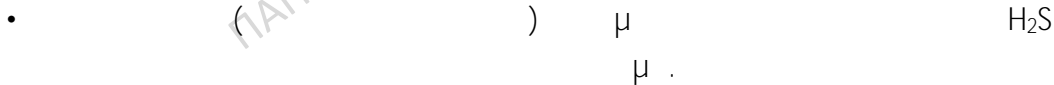
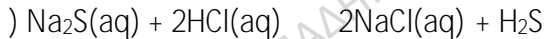
μ



(μ 9)

(μ 4)

2.2.



2.2. μ μ ()

μ

$$) \text{Mg(s)} + \text{HI(aq)}$$
$$) \text{ AgNO}_3(\text{aq}) + \text{KCl}(\text{aq})$$
$$) \text{NH}_3(\text{aq}) + \text{H}_2\text{SO}_4(\text{aq})$$
 $(\mu \quad 9)$ $(\mu \quad 4)$

2.2.

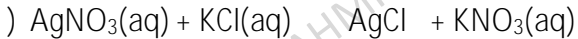


• () μ Mg

2

μ

.



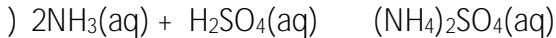
• () μ AgCl

μ

,

μ

.



2.2.

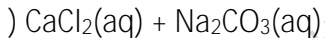
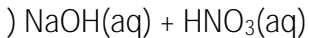
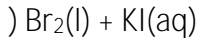
A)

μ

μ

(

)



B)

μ

μ

μ

(μ

9)

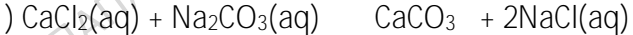
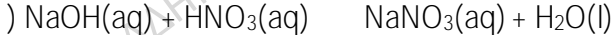
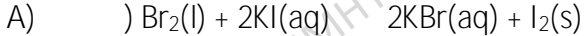
μ

SO_2 .

(μ

3)

2.2.



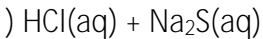
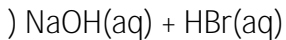
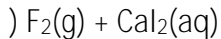
2.2.

) μ μ μ

μ

μ

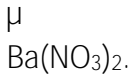
:



(μ 9)

) μ μ μ

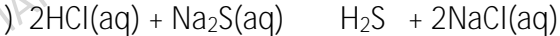
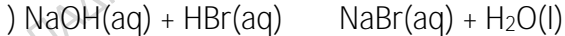
μ



(μ 3)

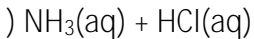
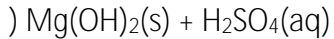
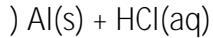
2.2.

)



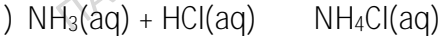
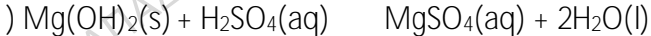
2.2.

) μ μ μ :



) μ μ μ (μ 9)
μ SO₃. μ (μ 3)

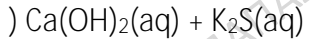
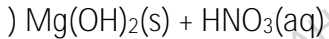
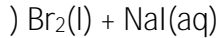
2.2.





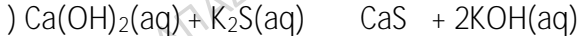
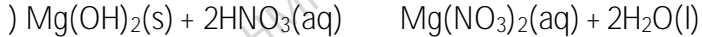


) μ μ



(μ 9)

B)



2.2.

) μ μ

μ :

) $\text{Ca(s)} + \text{AgNO}_3(\text{aq})$

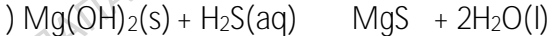
) $\text{Mg(OH)}_2(\text{s}) + \text{H}_2\text{S}(\text{aq})$

(μ

6)

2.2.

A)



2.2.

A)

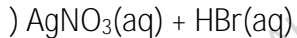
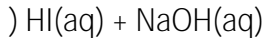
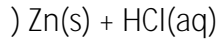
μ

μ

μ

μ

:



B)

μ

μ

μ

(μ

9)

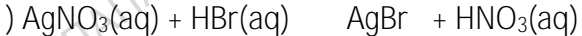
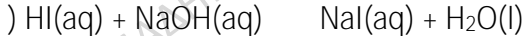
μ

SO_2 .

(μ

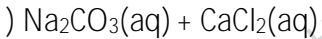
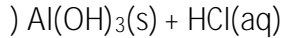
3)

2.2.



2.2. μ μ ()

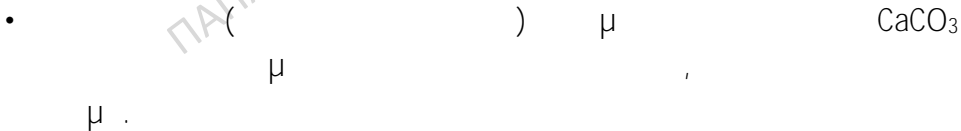
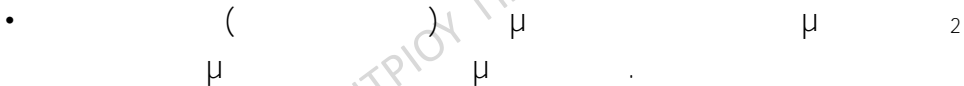
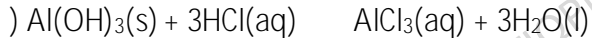
μ



(μ 9)

(μ 4)

2.2.



2.2.

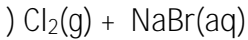
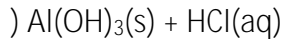
μ

μ

(

)

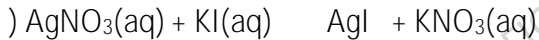
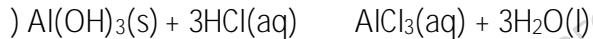
μ



(μ 9)

(μ 4)

2.2.



μ .



Cl₂

μ

μ

μ .

2.2.

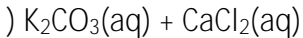
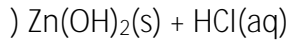
μ

μ

(

)

μ



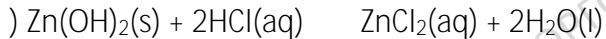
(μ

9)

(μ

4)

2.2.



• () μ Zn

Ag

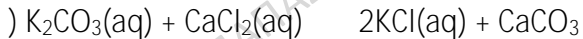
μ

.

Zn

μ

Ag.



• () μ

CaCO_3

μ

,

μ .

2.2.

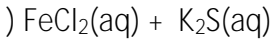
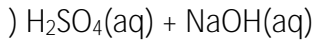
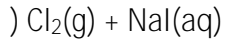
μ

μ

(

)

μ



(μ

9)

(μ

4)

2.2.



(

)

μ

Cl₂

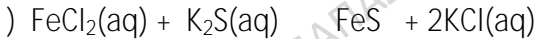
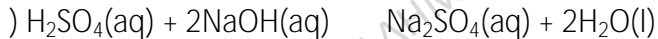
I₂

μ

Cl₂

μ

I₂.



(

)

μ

(FeS)

μ .

2.2.

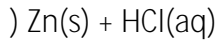
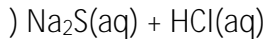
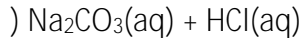
μ

μ

(

)

μ



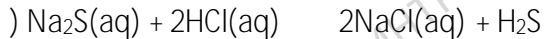
(μ 9)

(μ 4)

2.2.



• () μ CO₂ μ .



• () μ Zn
2
μ .

2.2.

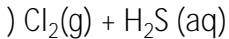
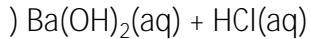
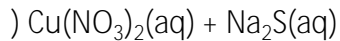
μ

μ

(

)

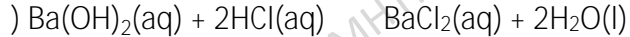
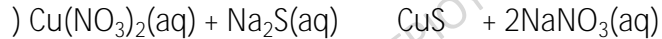
μ



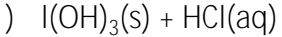
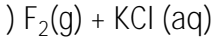
(μ 9)

(μ 4)

2.2.



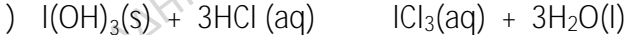
μ CuS.



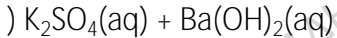
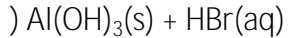
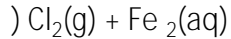
(μ

6)

)



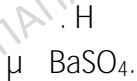
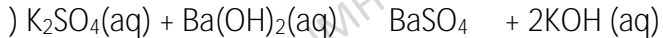
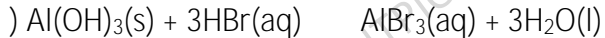
2.2. μ μ ()



(μ 9)

(μ 4)

2.2.



μ 2

2.1.

) μ Cl
(Fe) μ (Cu).

μ Cl;

I.

II.

III.

IV.

(μ 1)

(μ 4)

) μ μ μ

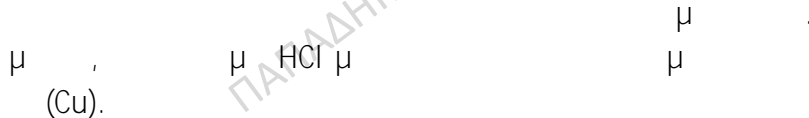
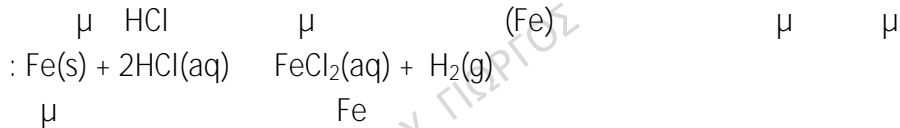
) $\text{Na}_2\text{CO}_3(\text{aq}) + \text{Ca}(\text{OH})_2(\text{aq})$

) $\text{KI}(\text{aq}) + \text{AgNO}_3(\text{aq})$

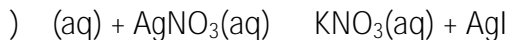
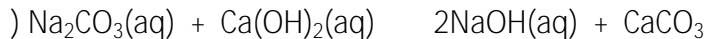
(μ 8)

2.1

) : II



)



2.2.

μ

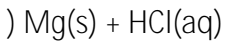
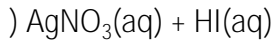
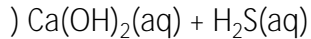
μ

μ

μ

,

.



(μ 9)

μ

μ

:

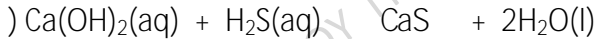
,

,

.

(μ 3)

2.2.



()

()

()

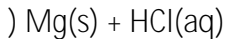
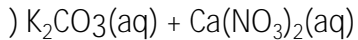
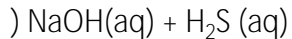
2.2.

μ

μ

μ

μ



(μ 9)

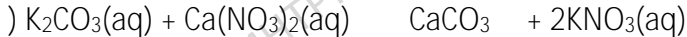
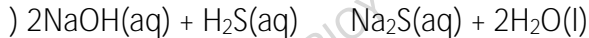
μ

μ

:

(μ 3)

2.2.



()

()

()

μ 2

2.1.

μ

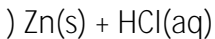
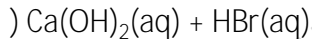
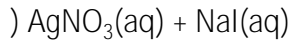
μ

(

)

μ

:



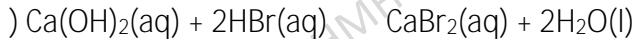
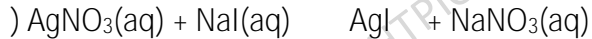
(μ

9)

(μ

4)

2.1.



H

Zn

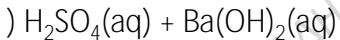
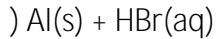
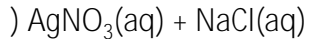
μ AgI.

2.2

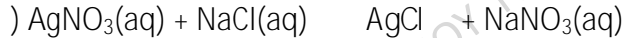
 μ μ

(

)

 μ  $(\mu \quad 9)$ $(\mu \quad 4)$

2.2



H

μ

AgCl.

Al

2.2.

μ

μ

(

)

μ

) HBr(aq) + AgNO₃(aq)

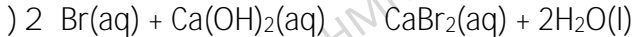
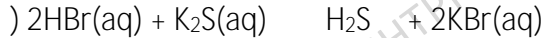
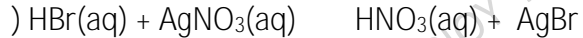
) HBr(aq) + K₂S(aq)

) HBr(aq) + Ca(OH)₂(aq)

(μ 9)

(μ 4)

2.2.



H

μ AgBr.

H

₂S.

μ 2

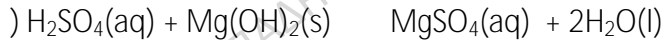
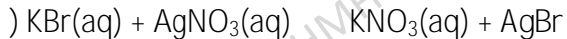
2.1. μ μ ()

- μ
) HI(aq) + Zn(s)
) KBr(aq) + AgNO₃(aq)
) H₂SO₄(aq) + Mg(OH)₂(s)

(μ 9)

(μ 4)

2.1.



Zn

μ

μ AgBr.

μ 2

2.1.

μ

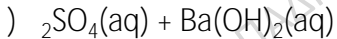
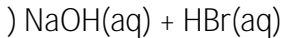
μ

(

)

μ

.



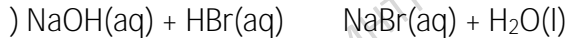
(μ

9)

(μ

4)

2.1.



Ag

μ

μ

μ

Zn

μ

BaSO₄.

2.2.

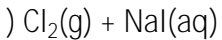
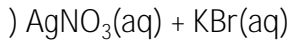
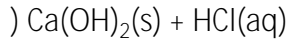
μ

μ

(

)

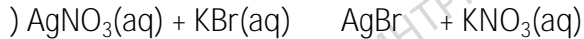
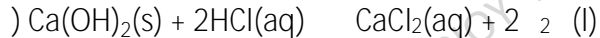
μ



(μ 9)

(μ 4)

2.2.



μ AgBr.

μ

μ

μ

μ

2.2.

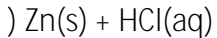
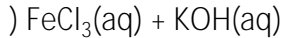
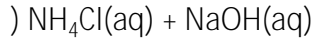
μ

μ

(

)

μ



(μ

9)

(μ

4)

2.2



H

$\text{Fe}(\text{OH})_3$.

3.

μ

2.2.

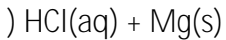
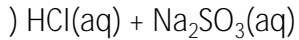
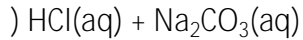
μ

μ

(

)

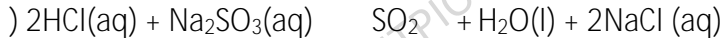
μ



(μ 9)

(μ 4)

2.2.



H

SO₂.

Mg

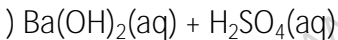
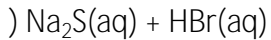
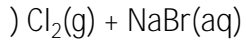
, μ

μ

μ

.

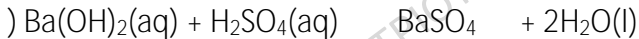
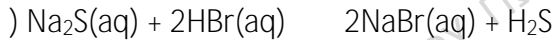
2.2. μ μ ()
 μ .



(μ 9)

(μ 4)

2.2.



μ

μ

μ

μ

μ

μ

H

H₂S.

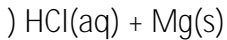
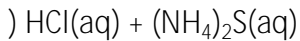
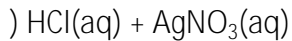
μ 2

2.1.

μ

μ

:



μ

),

(μ

1)

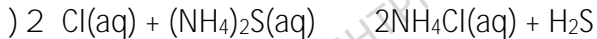
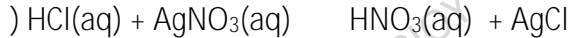
(

(μ

12)

2.1.

()



()

()

μ AgCl

S

.

)

Mg

,

μ

μ

μ

.

2.2.

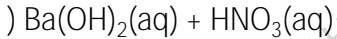
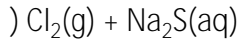
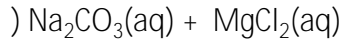
μ

μ

μ

μ

μ



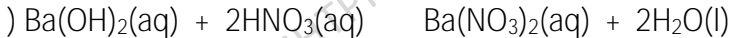
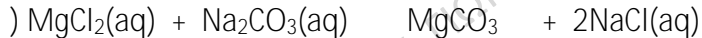
(μ 9)

),),)

:

(μ 3)

2.2.



)

)

)

2.2. μ μ)

μ .

) $\text{Cl(aq)} + \text{gNO}_3(\text{aq})$

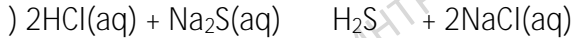
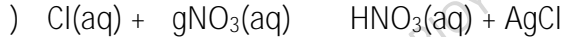
) $\text{Cl(aq)} + \text{Na}_2\text{S(aq)}$

) $\text{Cl(aq)} + \text{Ca(OH)}_2(\text{aq})$

(μ 9)

(μ 4)

2.2.



μ AgCl

S_2

μ 2

2.1.

μ

μ

(

)

) Mg(s) + HCl(aq)

) KOH(aq) + H (aq)

) CaCl₂(aq) + S(aq)

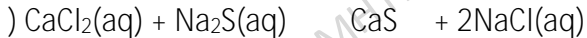
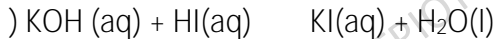
(μ

9)

(μ

4)

2.1



Mg

, μ μ μ .

: (⁺) () μ

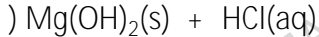
(⁻) ()

(₂), (μ).

) μ μ μ

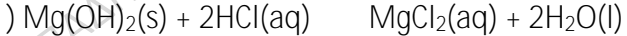
μ

:



(μ

6)



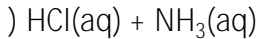
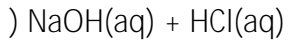
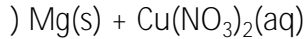
2.2.

μ

μ

(

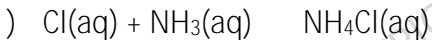
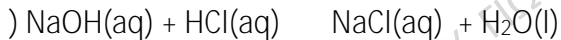
)



(μ 9)

(μ 4)

2.2.



H Cu μ μ Mg
 H NaOH μ \cdot
 HCl $:$ $(+)$ (HCl)
 μ $(-)$ (aOH)
 (2) , (μ) .

2.2.

A)

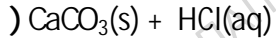
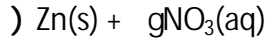
μ

μ

μ

μ

:

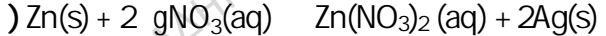


(μ

6)

22

A)



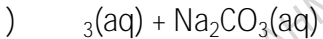
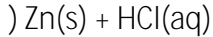
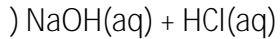
2.2.

μ

μ

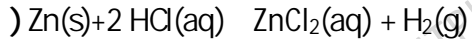
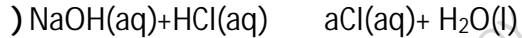
(

)



(μ 9)

(μ 4)



μ

μ

CO₂.

μ

4



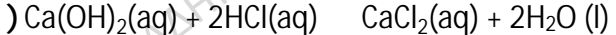
4

$$) \text{Cl}_2(\text{g}) + \text{FeI}_2(\text{aq})$$
$$) \text{ Ca(OH)}_2(\text{aq}) + \text{HCl}(\text{aq})$$

(u)

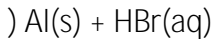
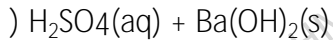
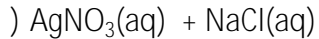
6)

)



2.1. N μ μ

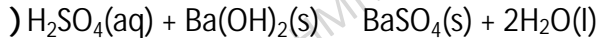
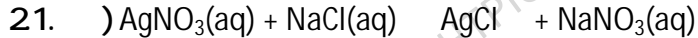
μ :



(μ 9)

(μ 4)

μ 2



μ

μ AgCl

Al

2.2.

A)

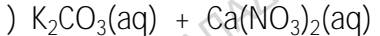
μ

μ

μ

μ

:

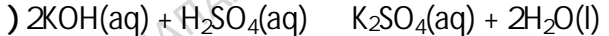
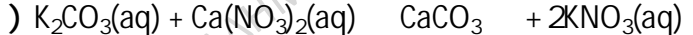


(μ

6)

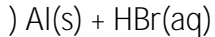
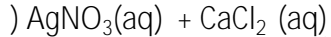
22

)



) μ μ

:



(μ

6)

)

