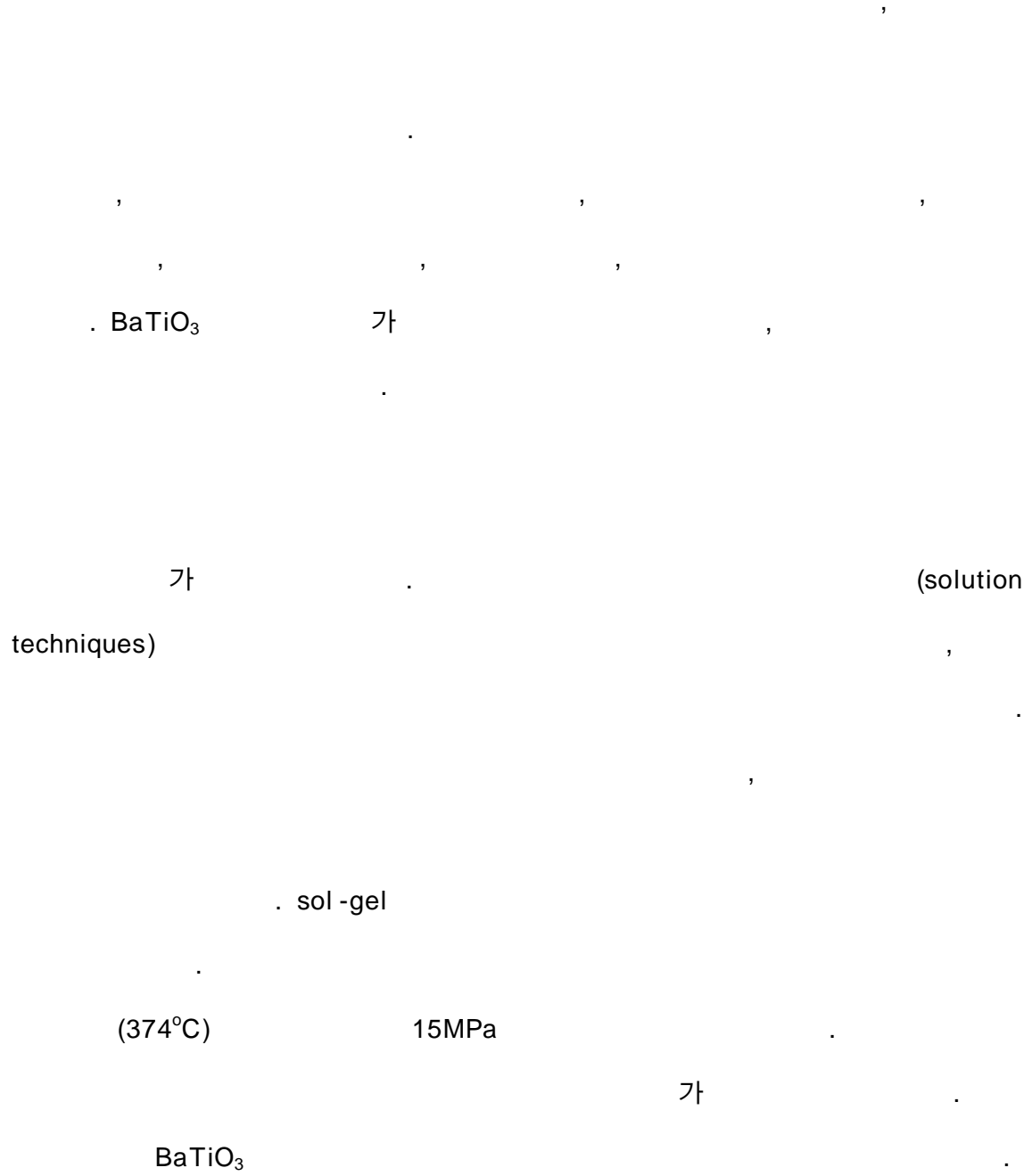
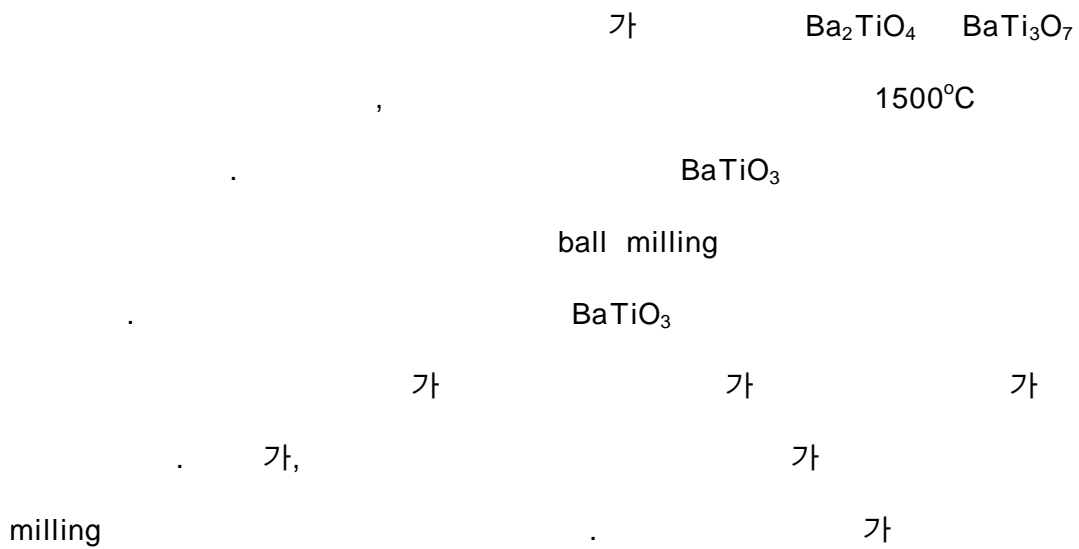
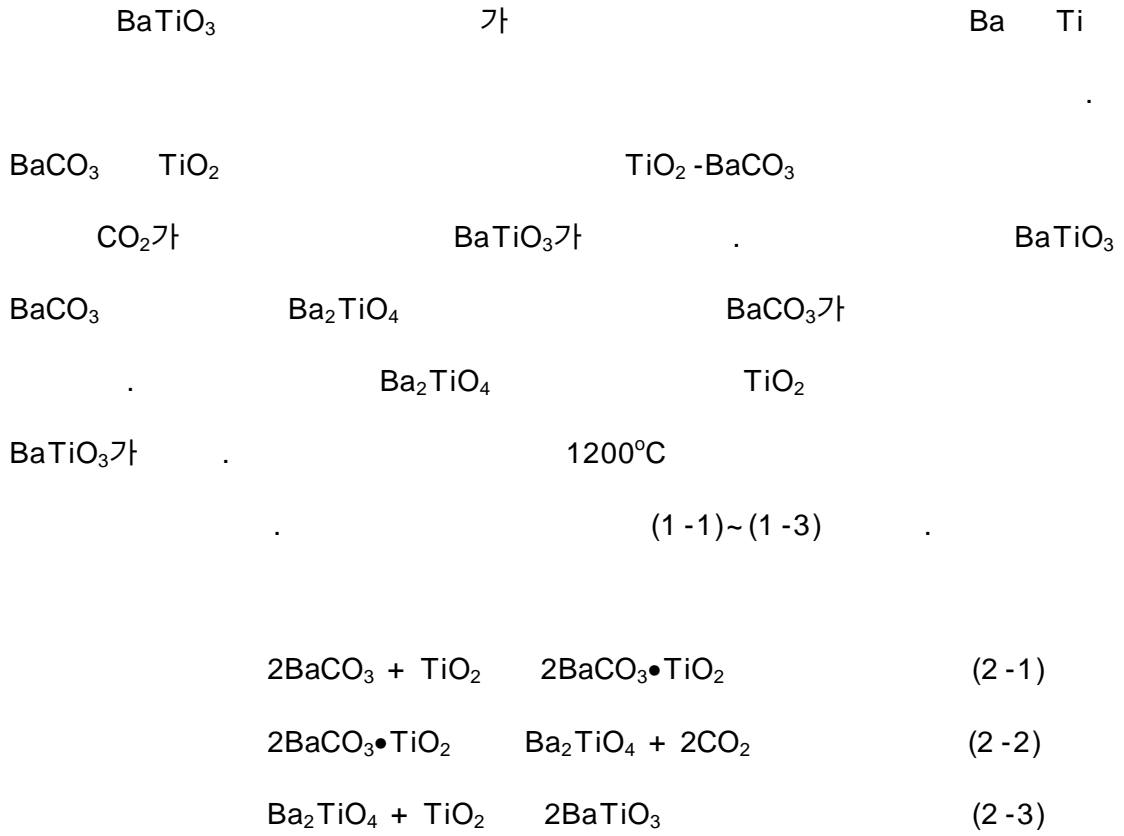


BaTiO₃





가

가

가

. BaTiO₃

alkoxide

가

. Ba Ti-

alkoxide (

Ba -isopropoxide

Ti -butoxide)

가

가

가

OR

Lewis

가

가

(, MO₂•xH₂O),

(, MO(OH)

M(OH)₂),

가

Ba

Ti(OH)₆²⁻가

BaTiO₃

가

가

sol-gel

, sol-

gel 가

TiOCl₂ BaCl₂

50 -100 μm

BaTiO(C₂O₄)₂ 4H₂O(

BTO)

BTO

BaTiO₃

BaTi₂O₅CO₃,

600 -700°C

BaTiO₃

가

(, , ,)

가

Sol-gel

sol-gel

metal oxide 가

metal oxide . sol-gel

가

가

sol-gel

BaTiO₃

(alkoxide)

sol-gel

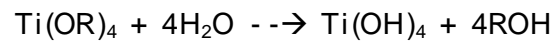
BaTiO₃

가

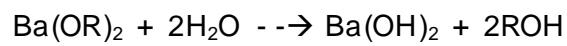
(2-

4) (2-5)

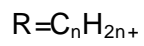
가



(1-4)



(1-5)



sol-gel

가

가

가

가

가

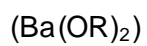
Ba-Ti

가

가

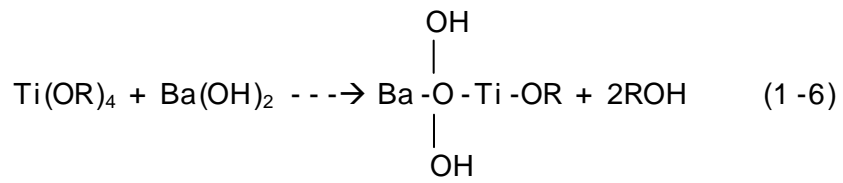
가

(2-2)



가

(Ba, Ti)
 (Ba(OH)₂·8H₂O) 가 Ti-
 1:1



Ti(OR)₄ 가 (R)가 가 Ba-O-Ti-(OH)₂

가

ostwald ripening

가 가

가

network

가

가

BaTiO₃

300-500°C

가

600°C가

BaTiO₃가

sol-gel

가

가

가

가 가 .
가 -

가

BaTiO₃

가

, BaCl₂ TiOCl₂,

가 가

200 -300°C

()

()

()

()

, 가

가