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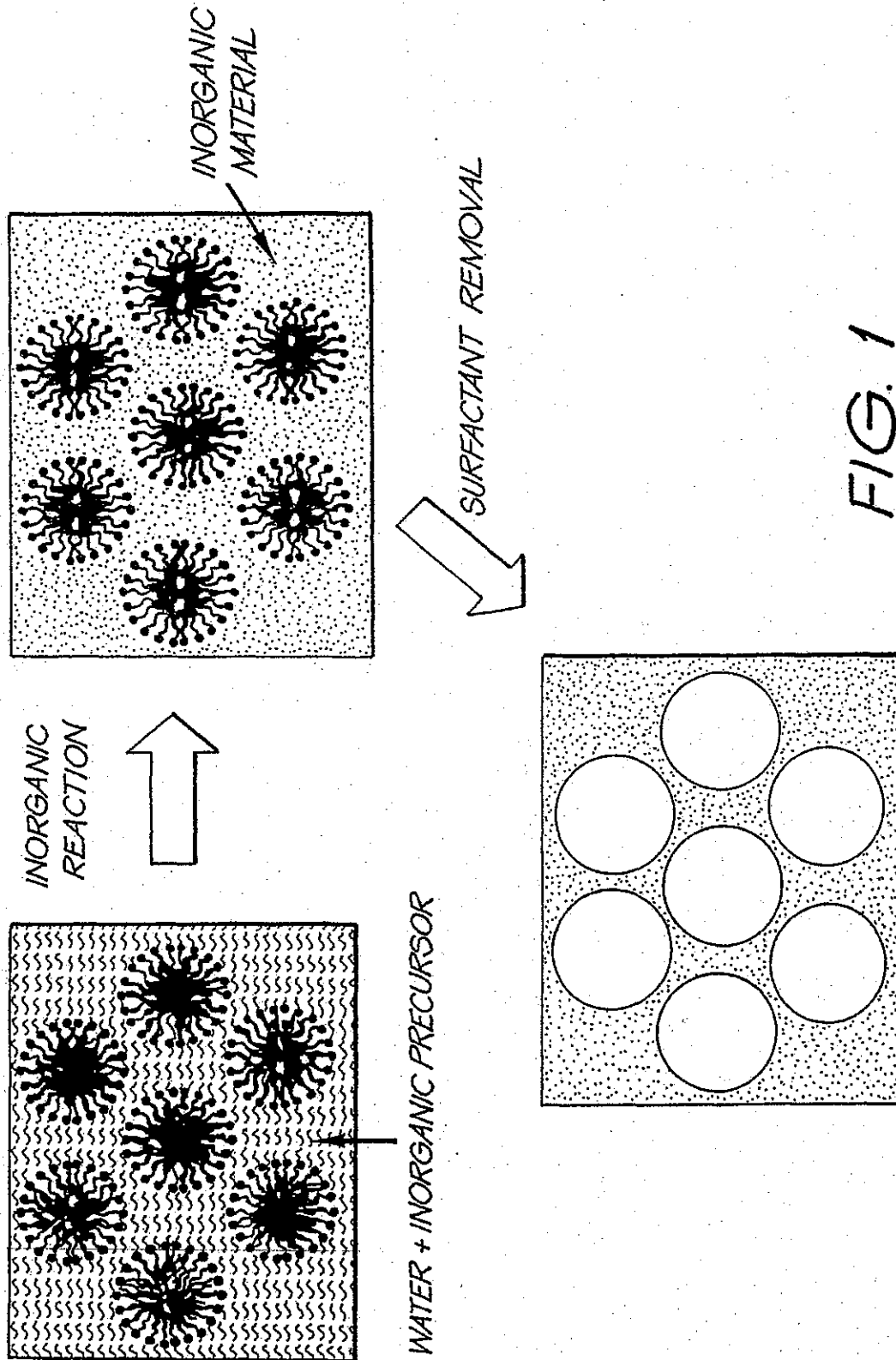
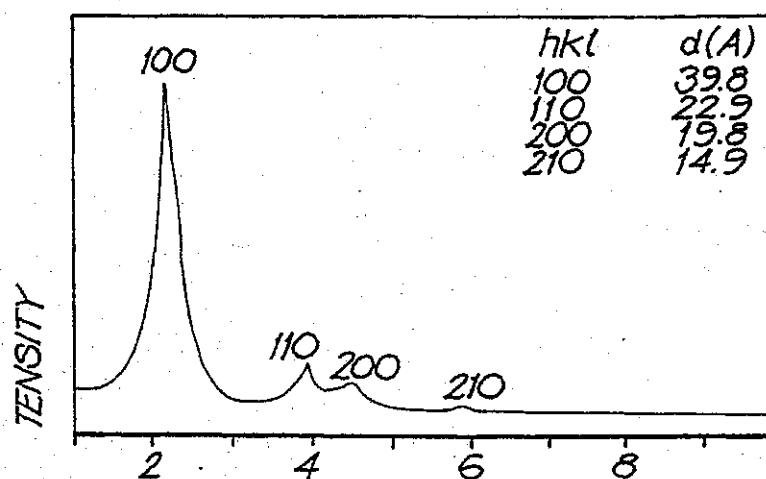


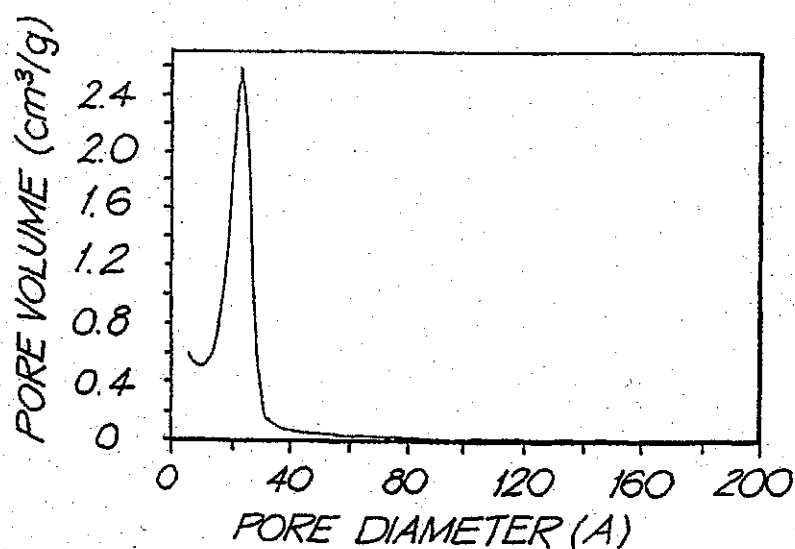
FIG. 1

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TYPICAL XRD PATTERN FROM A SURFACTANT-TEMPLATED MATERIAL.

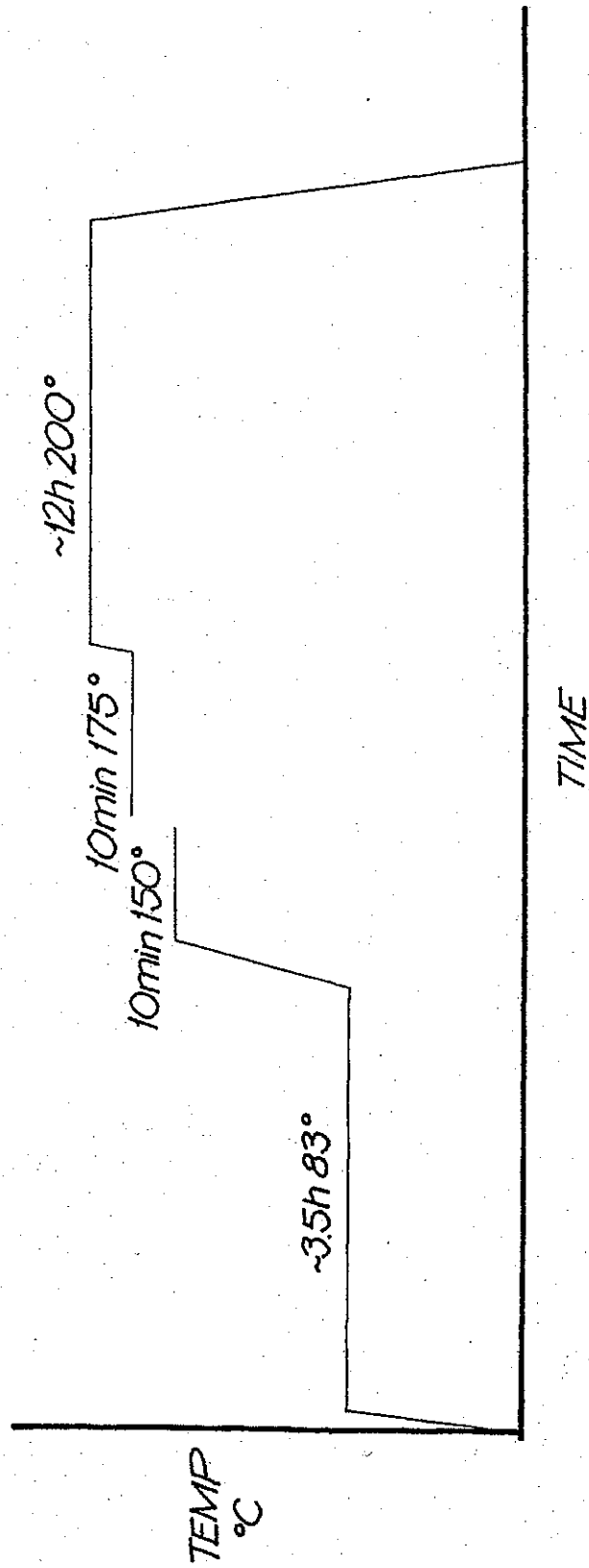
FIG. 2



TYPICAL PORE SIZE DISTRIBUTION FROM A SURFACTANT-TEMPLATED MATERIAL.

FIG. 3

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IN EXAMPLE 1 - PRODUCTION OF CeO₂. TEMPERATURE HISTORY.

FIG. 4

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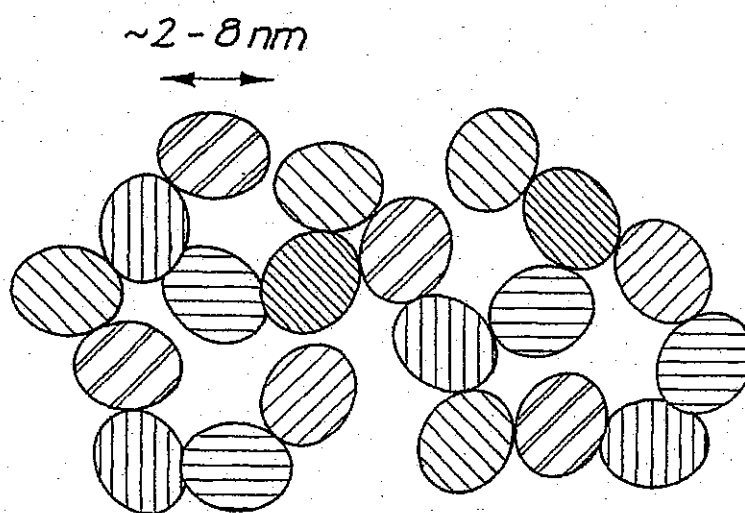
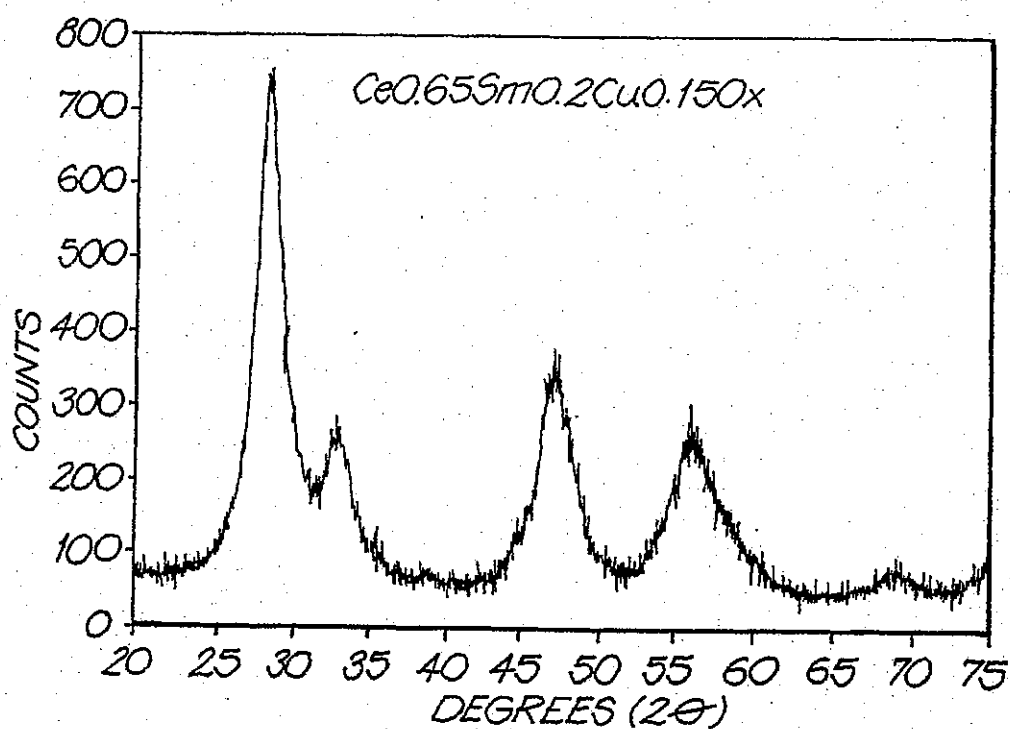
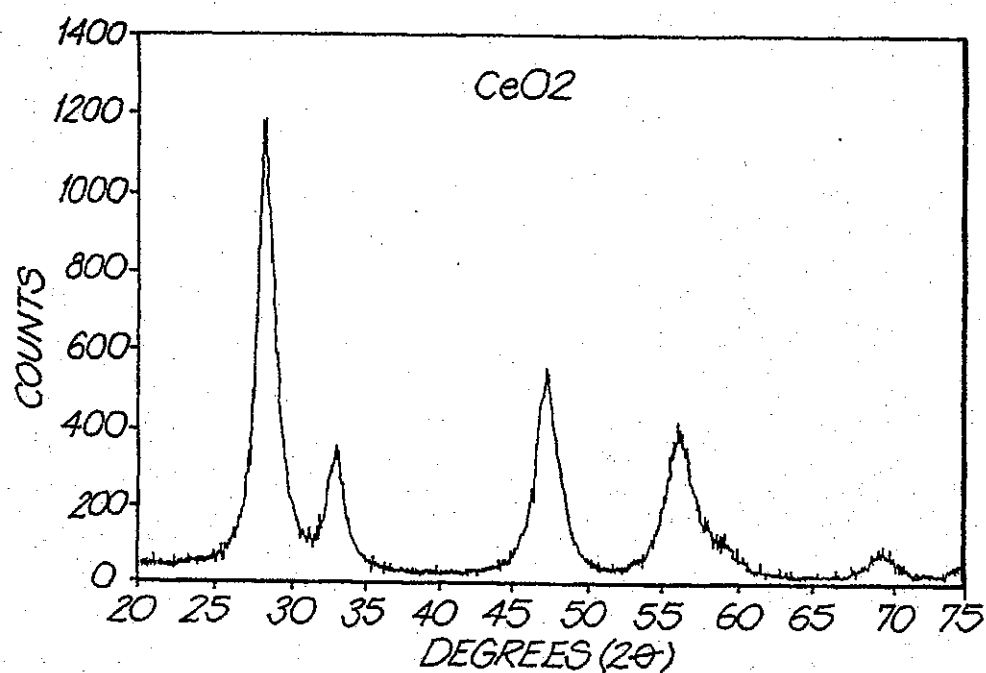


FIG. 5

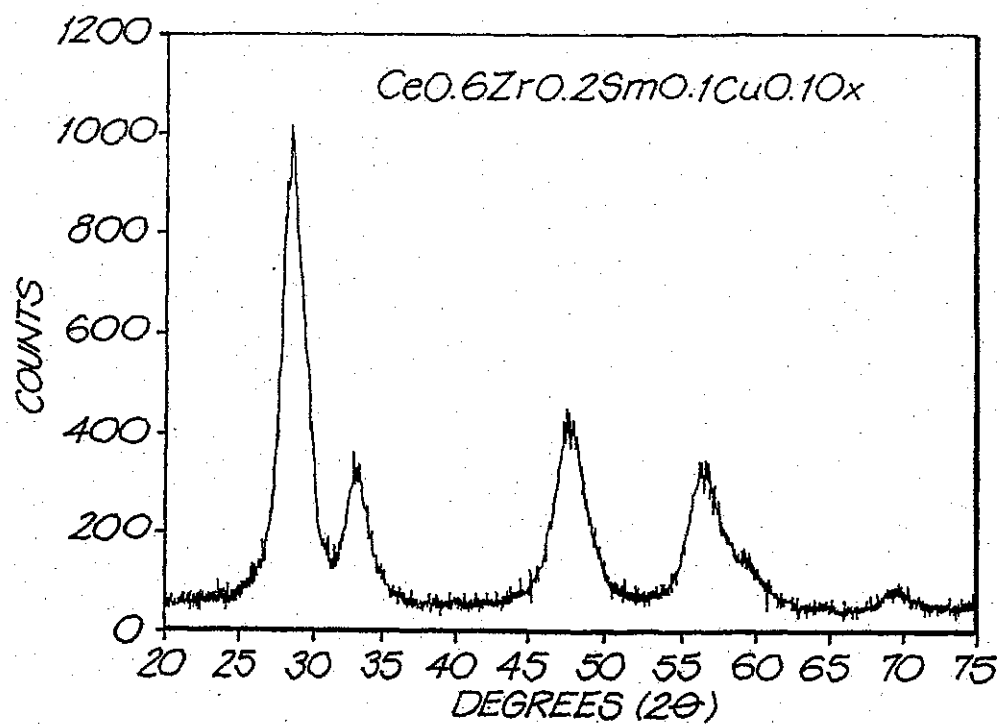
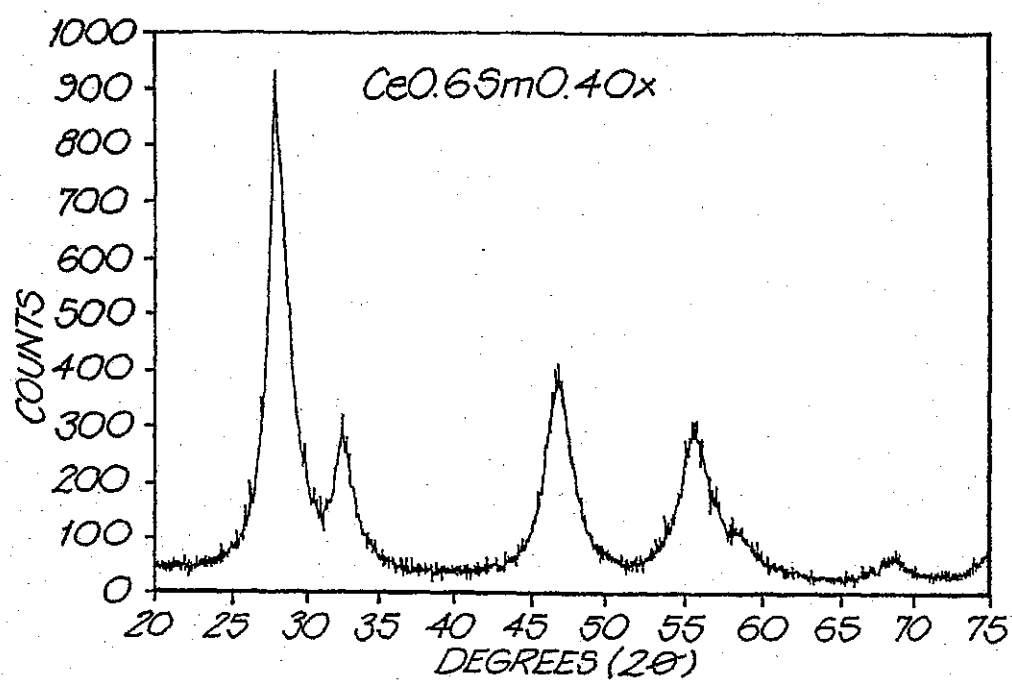
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XRD TRACES FROM CeO_2 , $\text{Ce}_{0.65}\text{Sm}_{0.4}\text{O}_x$,
 $\text{Ce}_{0.65}\text{Sm}_{0.2}\text{Cu}_{0.15}\text{O}_x$, $\text{Ce}_{0.6}\text{Zr}_{0.2}\text{Sm}_{0.1}\text{Cu}_{0.1}\text{O}_x$

FIG. 6(a)

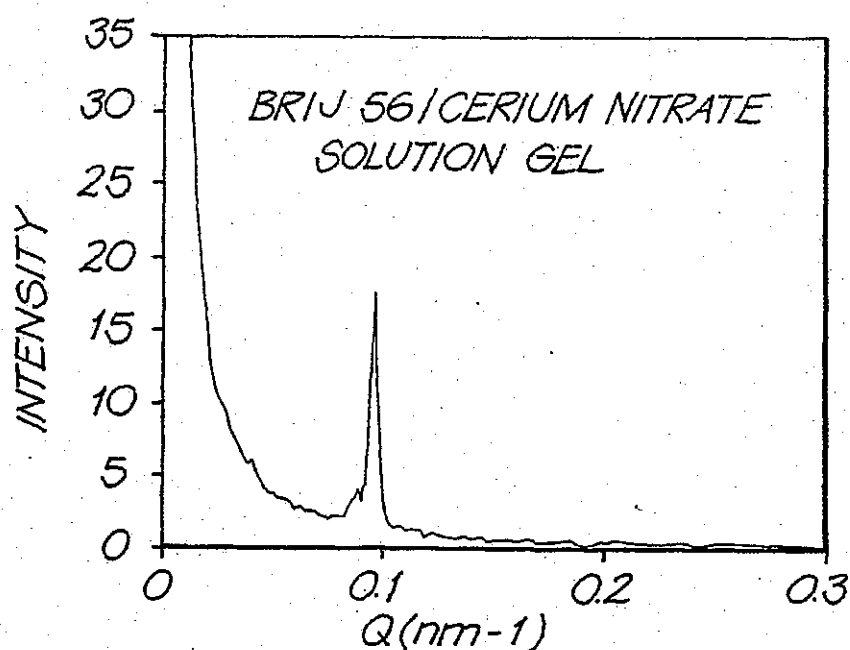
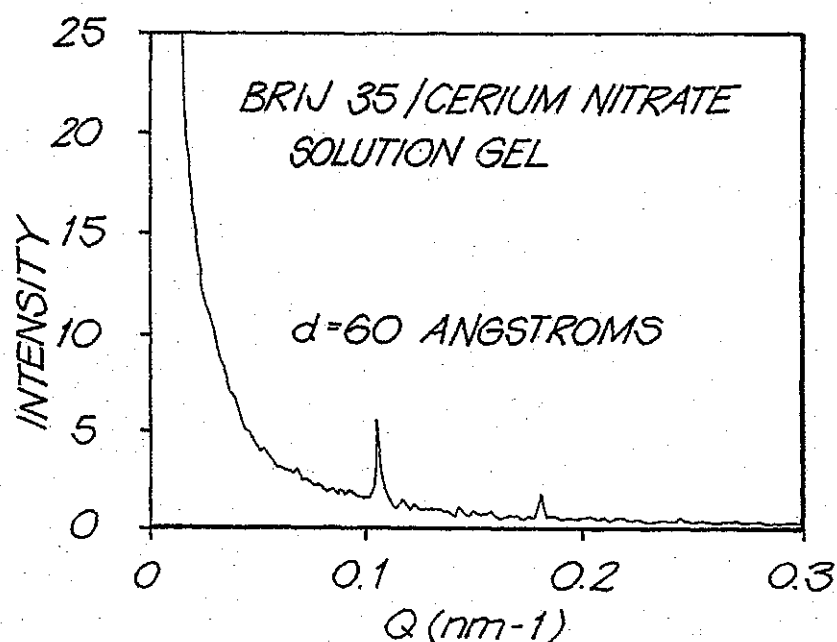
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XRD TRACES FROM CeO_2 , $\text{Ce}_{0.6}\text{Sm}_{0.4}\text{O}_x$,
 $\text{Ce}_{0.65}\text{Sm}_{0.2}\text{Cu}_{0.15}\text{O}_x$, $\text{Ce}_{0.6}\text{Zr}_{0.2}\text{Sm}_{0.1}\text{Cu}_{0.1}\text{O}_x$

FIG. 6(b)

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SAXS DATA FOR GELS COMPRISED OF CERIUM NITRATE SOLUTIONS & BRIJ 35, BRIJ 56 & PLURONIC F127 SURFACTANTS. ALSO SHOWN IS SAXS DATA FROM THE POWDERS PRODUCED FROM THESE GELS

FIG. 7(a)

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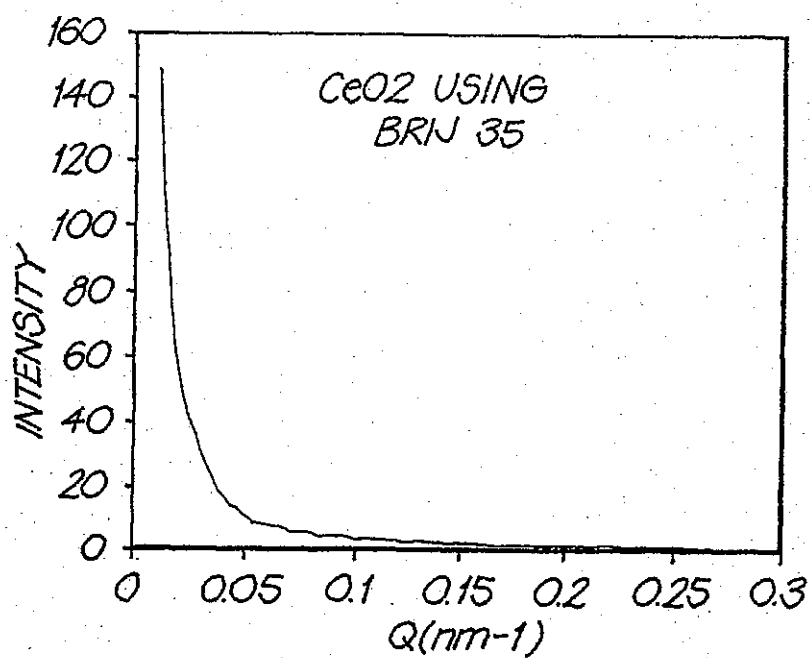
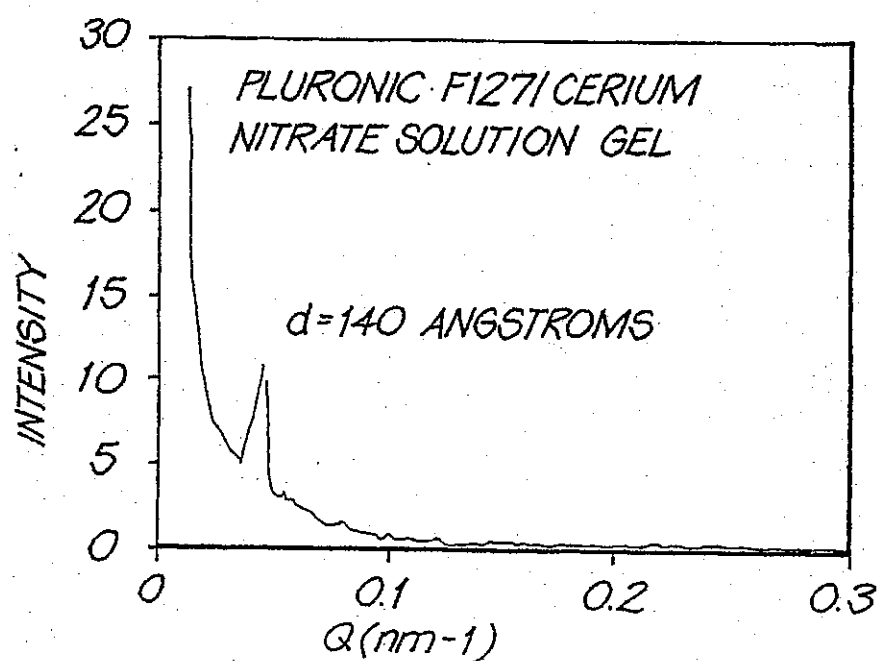


FIG. 7(b)

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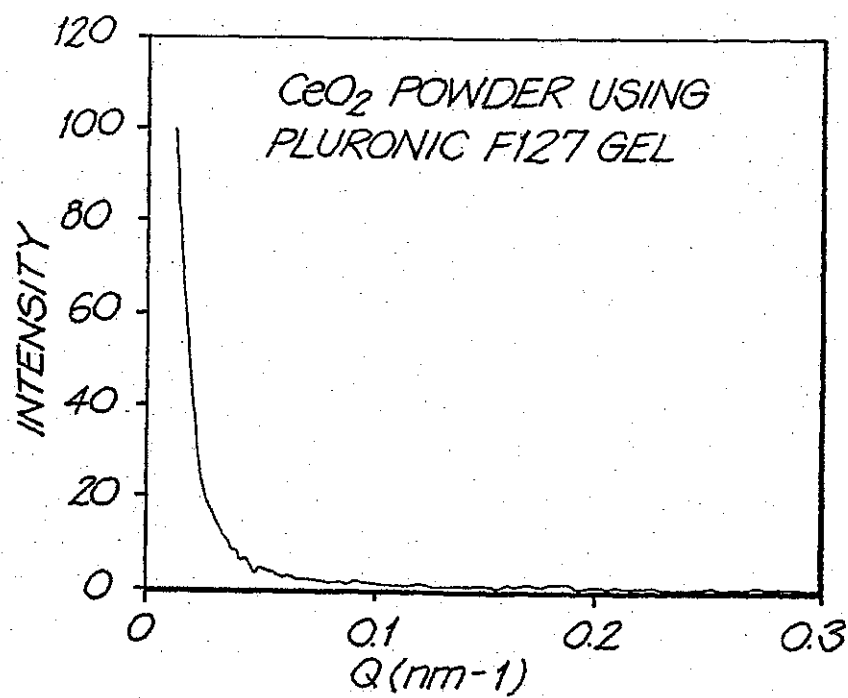
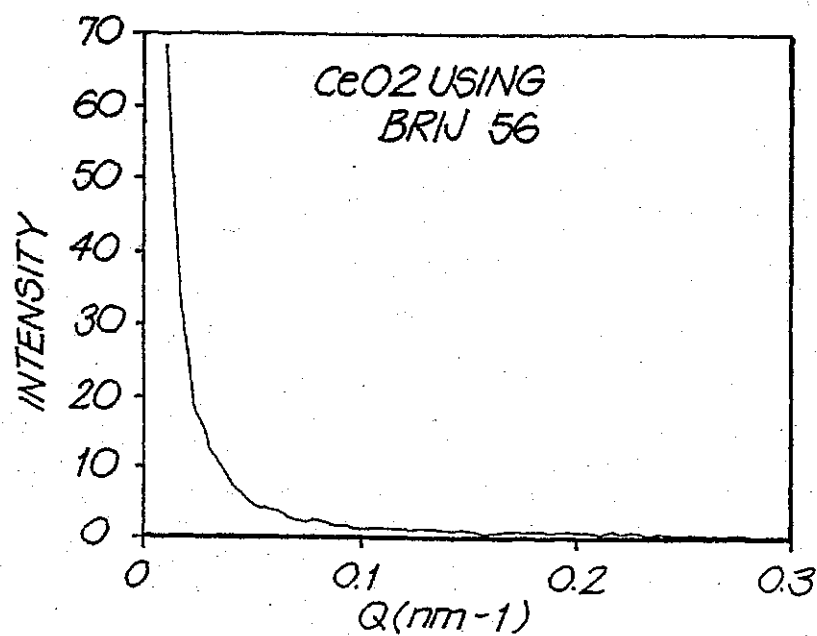
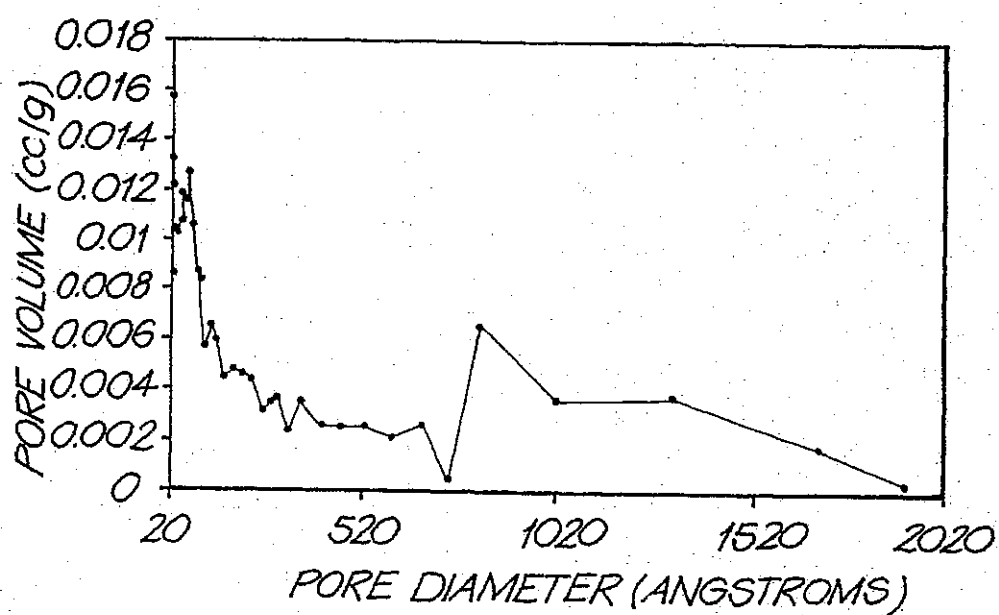


FIG. 7(c)

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PORE SIZE DISTRIBUTION FROM CeO_2 POWDER MADE
USING BRIJ 35 SURFACTANT (SURFACE AREA = $253 \text{ m}^2/\text{g}$)

FIG. 8

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COMPARISON OF ABOVE DATA WITH A TYPICAL PORE
SIZE DISTRIBUTION FROM A SURFACTANT-TEMPLATED
MATERIAL

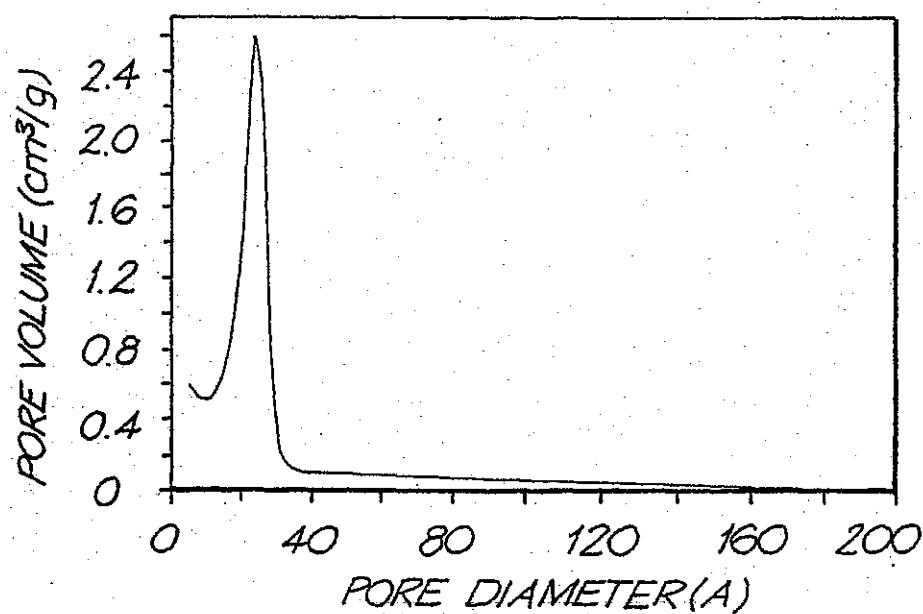
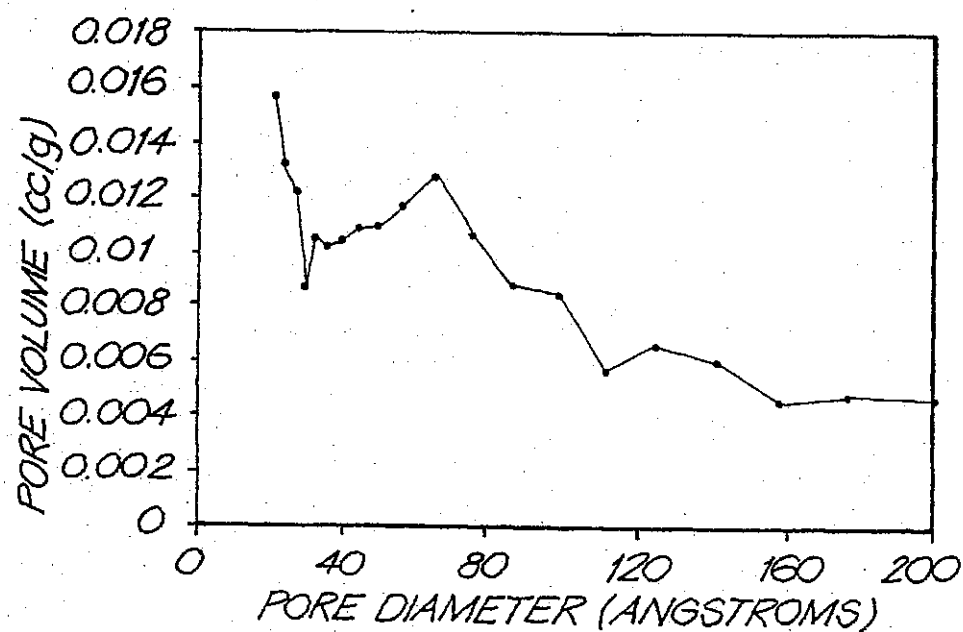


FIG. 9

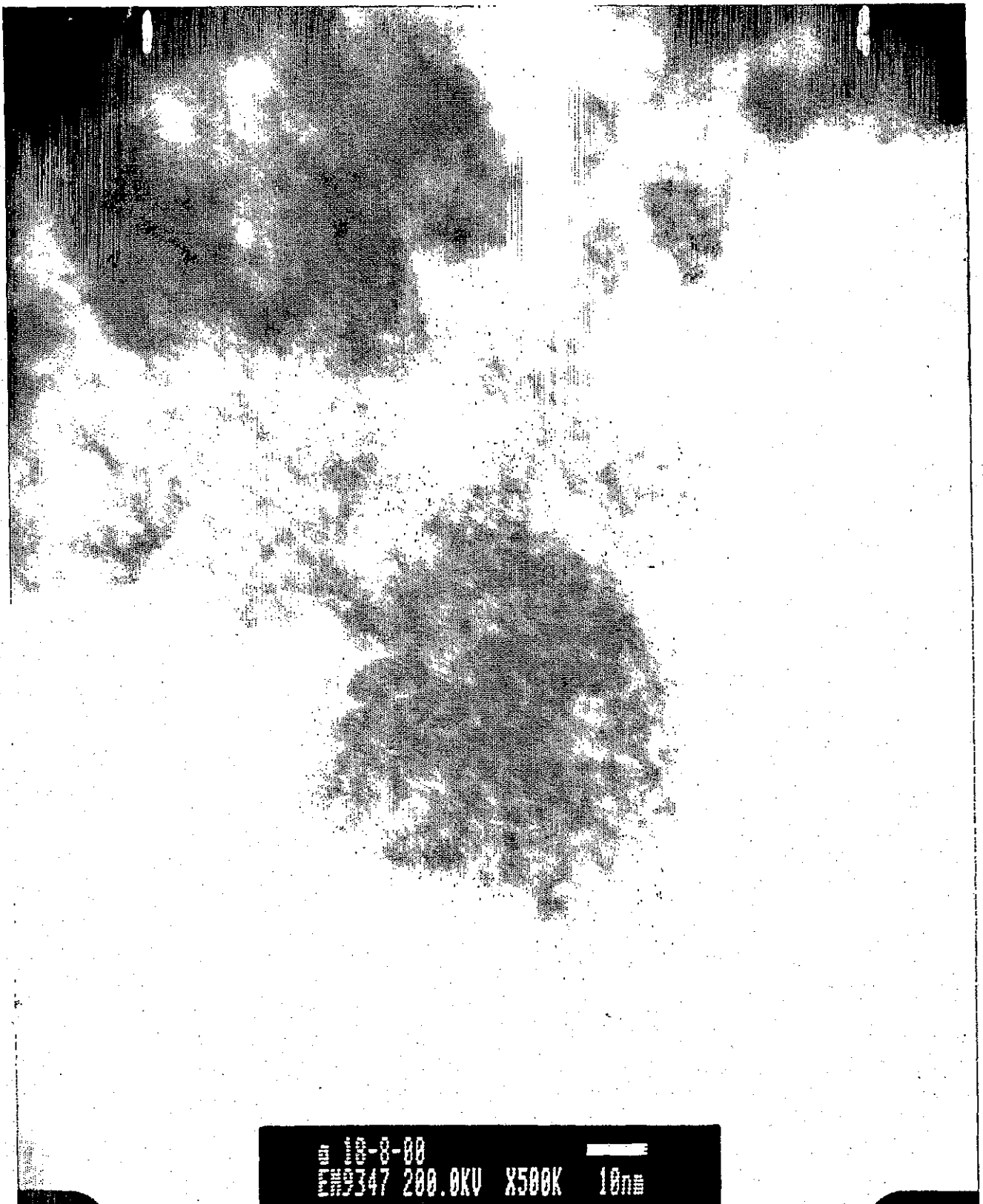


FIG. 10

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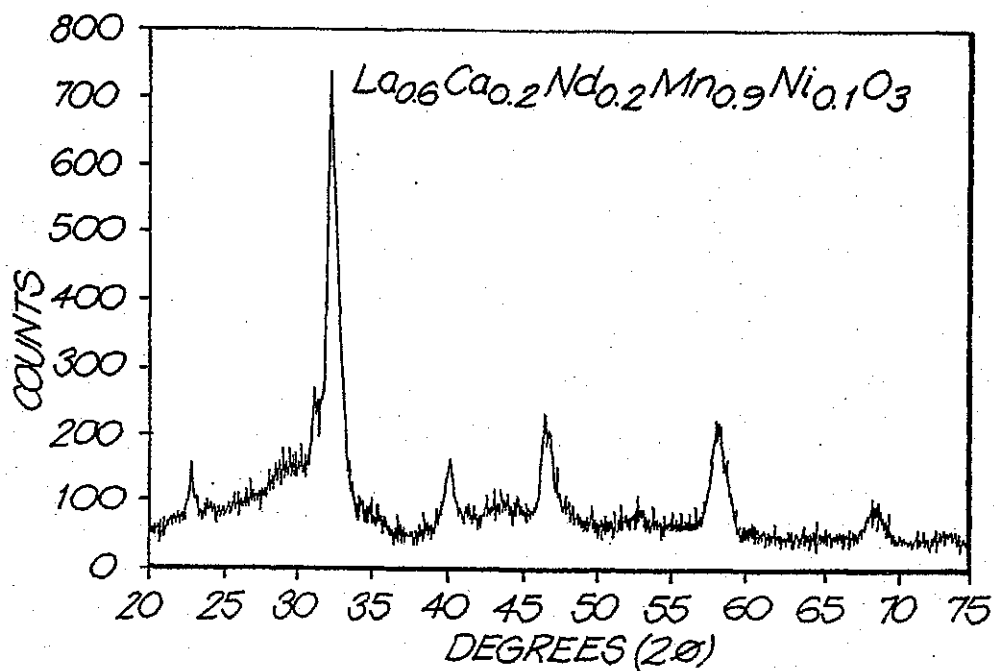
XRD TRACE FROM $\text{La}_{0.6}\text{Ca}_{0.2}\text{Nd}_{0.2}\text{Mn}_{0.9}\text{Ni}_{0.1}\text{O}_3$

FIG. 11

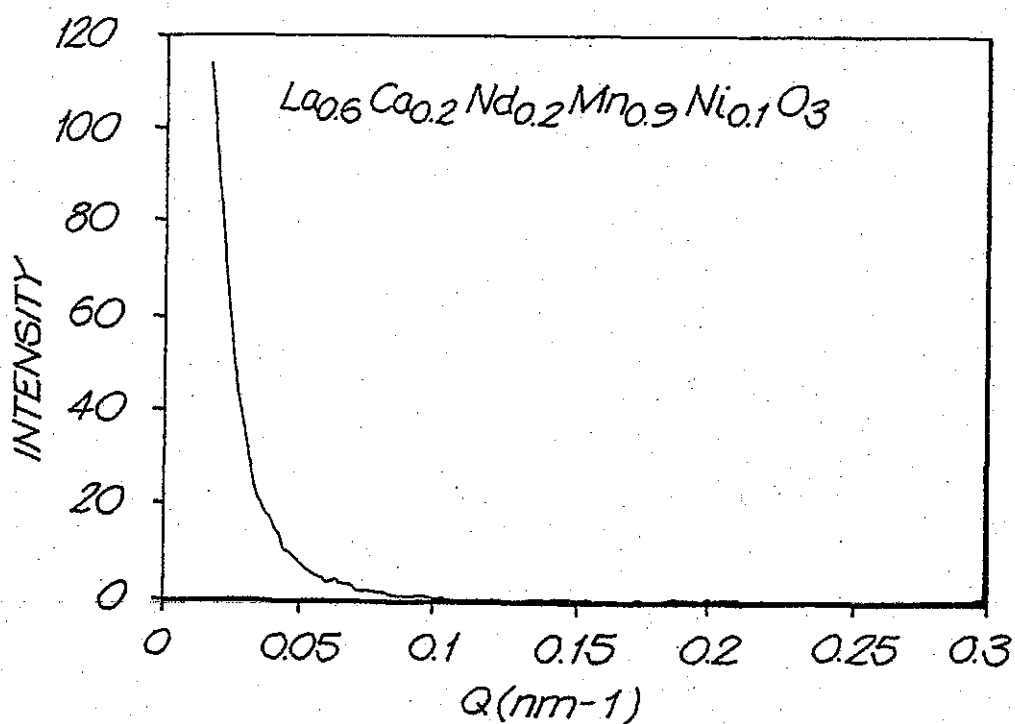
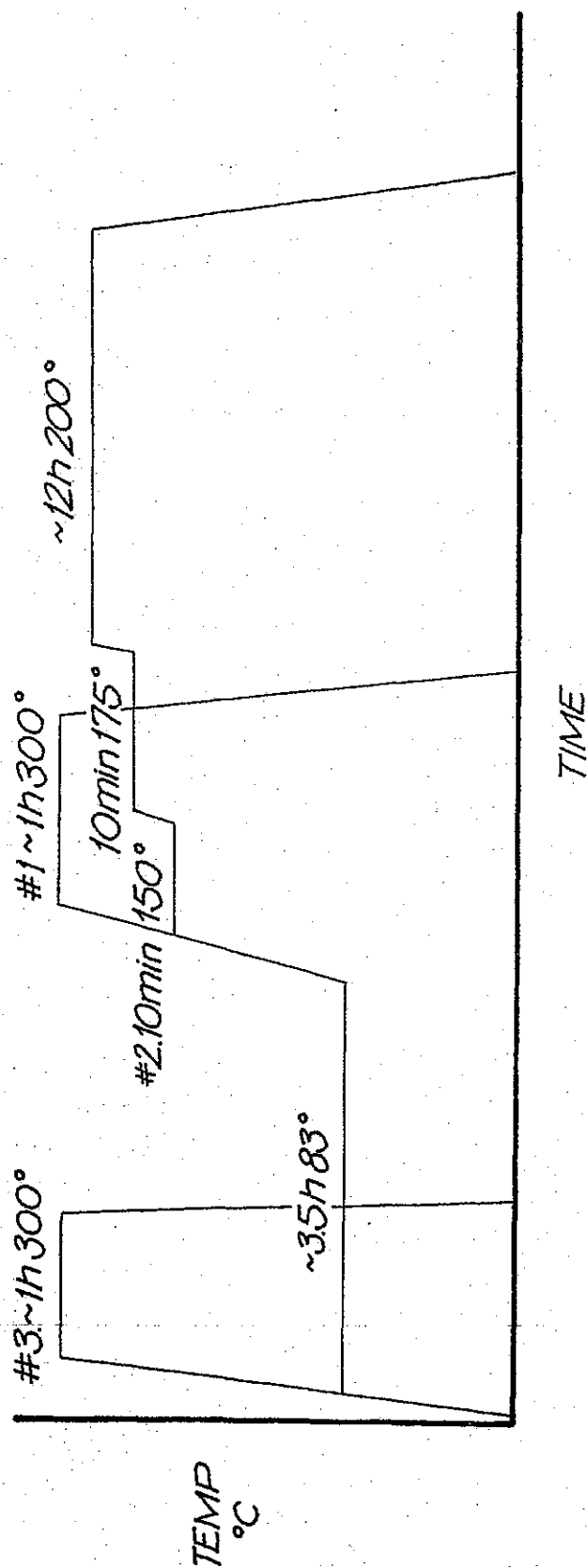
SAXS DATA FROM $\text{La}_{0.6}\text{Ca}_{0.2}\text{Nd}_{0.2}\text{Mn}_{0.9}\text{Ni}_{0.1}\text{O}_3$

FIG. 12

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HEAT TREATMENT SCHEDULES FOR CeO_2 MATERIALS IN "EXPERIMENTS IN STEP 2:
MIXING THE SOLUTION WITH SURFACTANT"

FIG. 13