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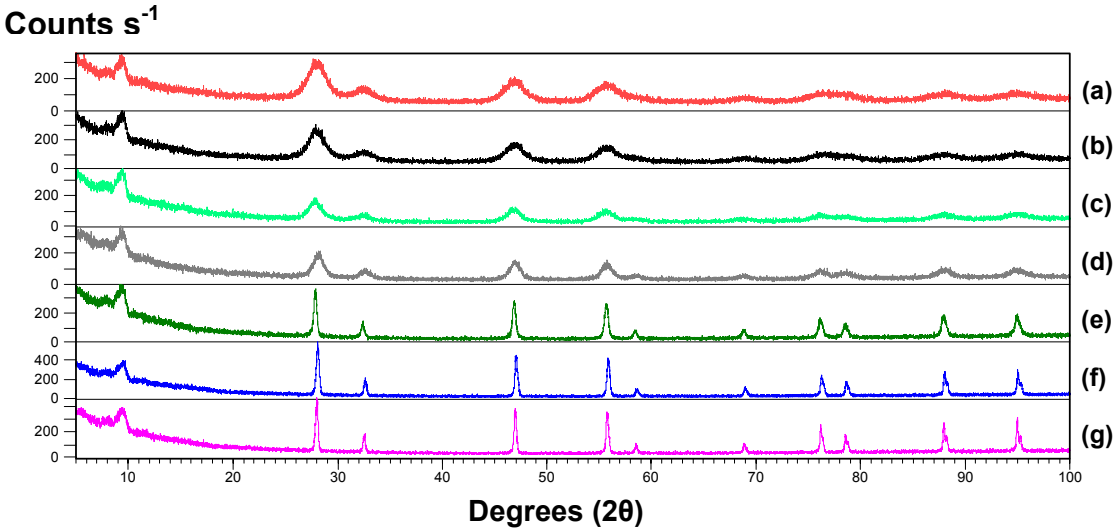
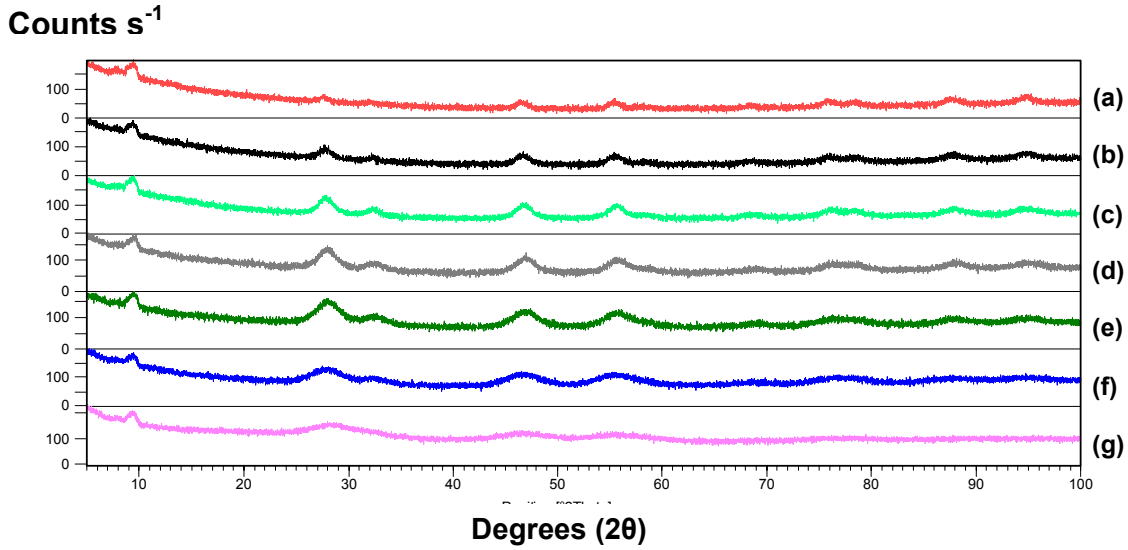
SUPPLEMENTARY DATA:- XRD DATA



Supplementary Figure 1:- Ceria gel heated in air to (a) 423 K, (b) 623 K, (c) 723 K, (d) 823 K, (e) 923 K, (f) 1023 K and (g) 1123 K. The feature at 9º 2θ is an instrument artefact.



Supplementary Figure 2:- Ceria gel heated in nitrogen to (a) 423 K, (b) 623 K, (c) 723 K, (d) 823 K, (e) 923 K, (f) 1023 K and (g) 1123 K. The feature at 9º 2θ is an instrument artefact.

SUPPLEMENTARY DATA:- ISOTHERM DATA

Textural characterization by N_2 Physisorption of Ceria Gel Heated to 823K under Air
Adsorption isotherm, type IV (IUPAC classification), is typical for mesoporous materials. S_{BET}=105.8 m^2/g. t-plot analysis confirms the presence of micropores (Vμ=28.2 mm^3_{liq}/g) and mesopore surface 72.2 m^2/g. t-plot was constructed by using Lecloux-Pirard standard isotherm with C_{modif} = 5.

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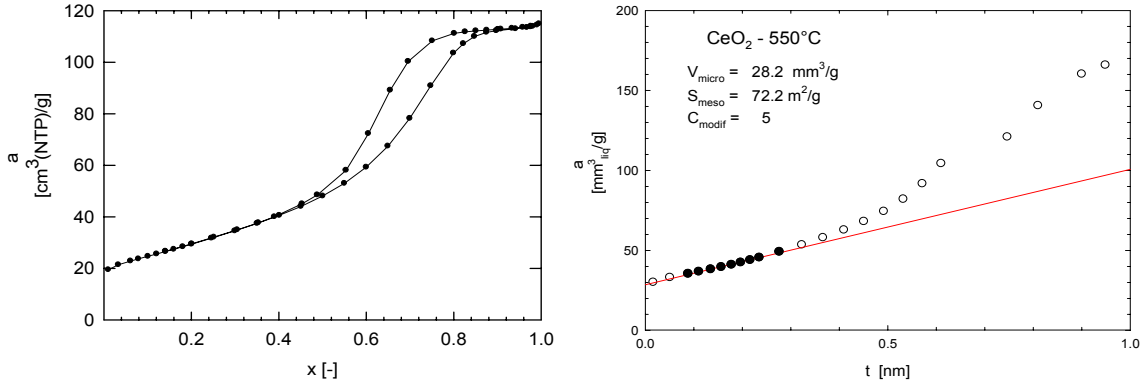

Fig. 1 (a) Nitrogen physical adsorption isotherm measured at 77K and (b) t-plot

Pore-size distributions from adsorption branch (Fig.2a) and desorption branch (Fig.2b) were evaluated by using Barrett-Joyner-Halenda (BJH) method for cylindrical pores.

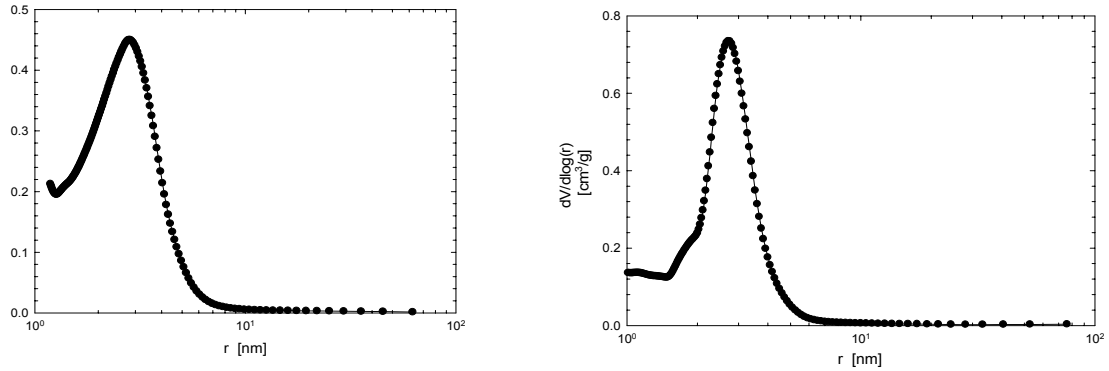

Fig.2 Pore-size distribution evaluated from physical adsorption isotherm obtained at 77K from (a) the adsorption branch and (b) from the desorption branch the isotherm.

Textural characterization by N_2 Physisorption of Ceria Gel Heated to 823K under N_2

The shape of adsorption-desorption isotherm (Fig.3) is typical for micro-mesoporous materials (classification IUPAC), S_{BET} = 92.8 m^2/g. t-plot analysis confirms the presence of micropores ($V\mu$=23.2 mm^3_{liq}/g) and a mesopore surface area 49.5 m^2/g. The t-plot was constructed using the Lecloux-Pirard standard isotherm with C_{modif} = 16.4.

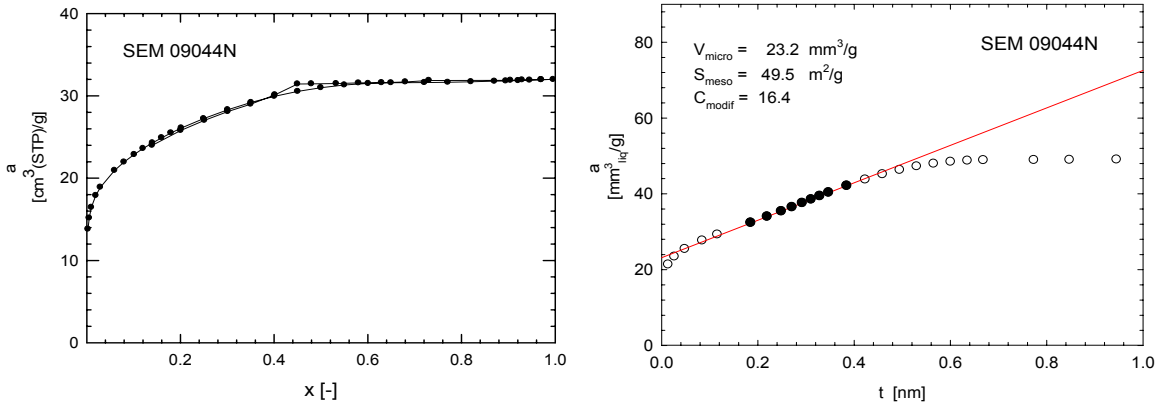

Fig. 3 (a) Nitrogen physical adsorption isotherm measured at 77K and (b) t-plot

Pore-size distributions from adsorption branch (Fig. 4a) and desorption branch (Fig.4b) of the isotherm were evaluated by using Barrett-Joyner-Halenda (BJH) method for cylindrical pores.

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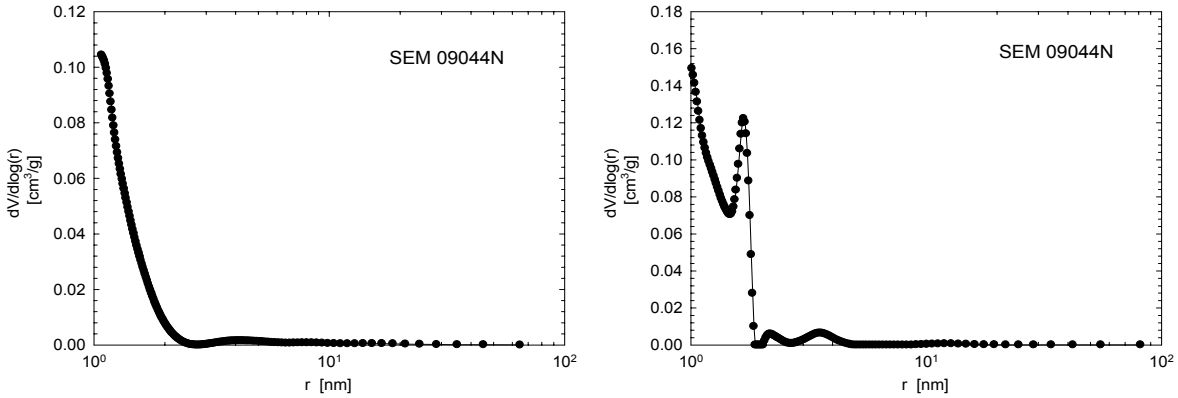

Fig.4 Pore-size distribution evaluated from physical adsorption isotherm obtained at 77K from (a) the adsorption branch and (b) from the desorption branch the isotherm.

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