Electronic Supplementary Material (ESI) for Materials Chemistry Frontiers.

Supporting Information

A Versatile Ethanolic Approach to Metal Aerogels (Pt, Pd, Au, Ag, Cu and Co)

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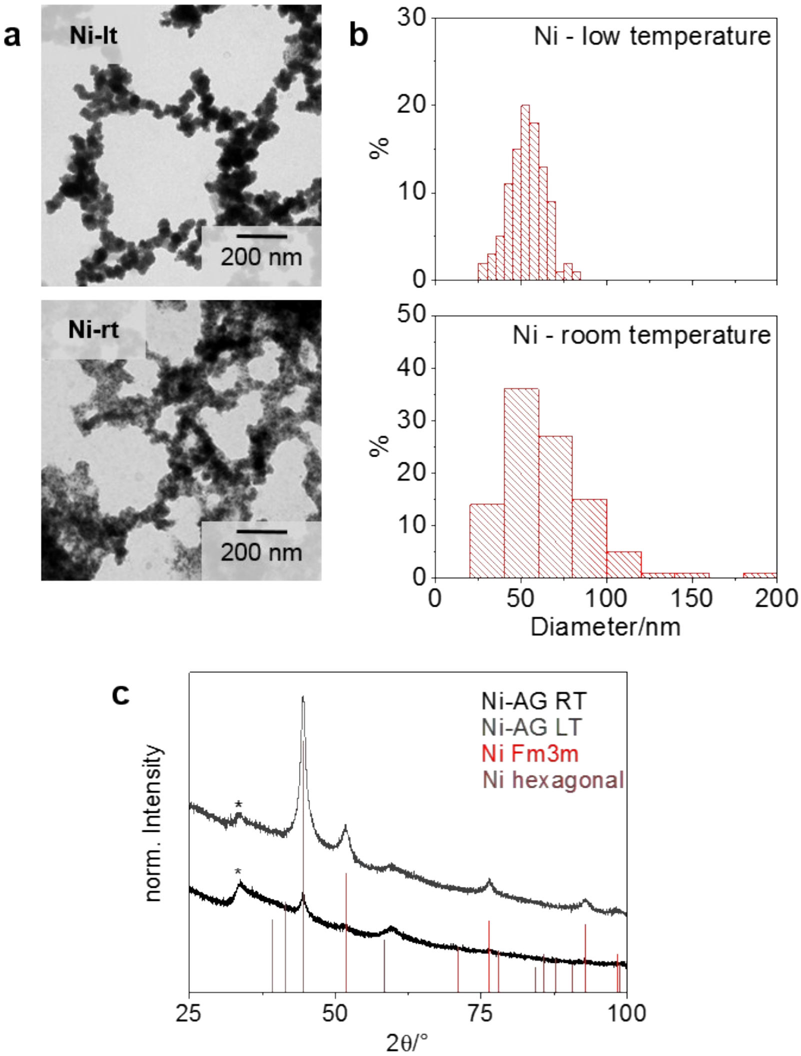
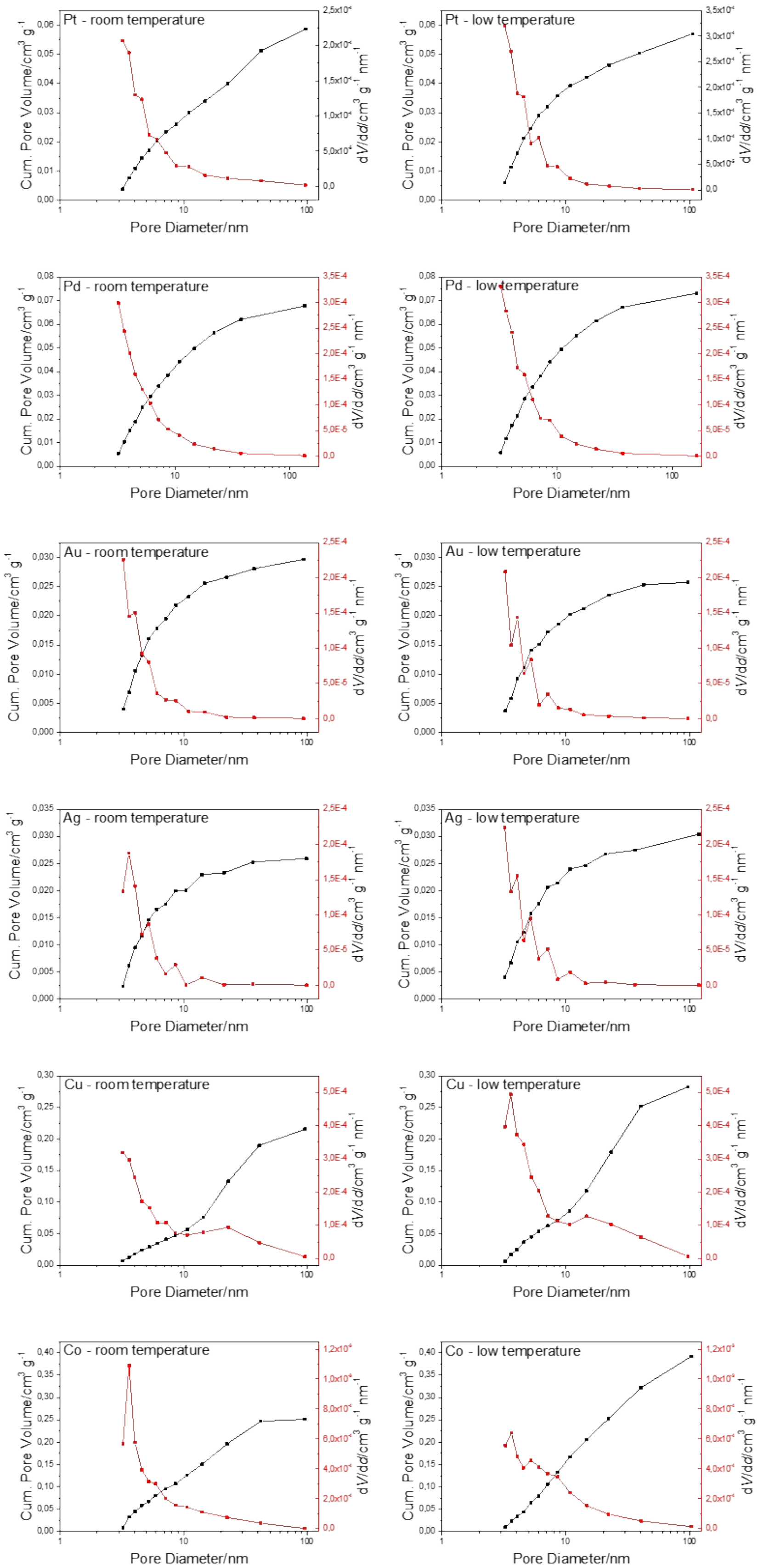


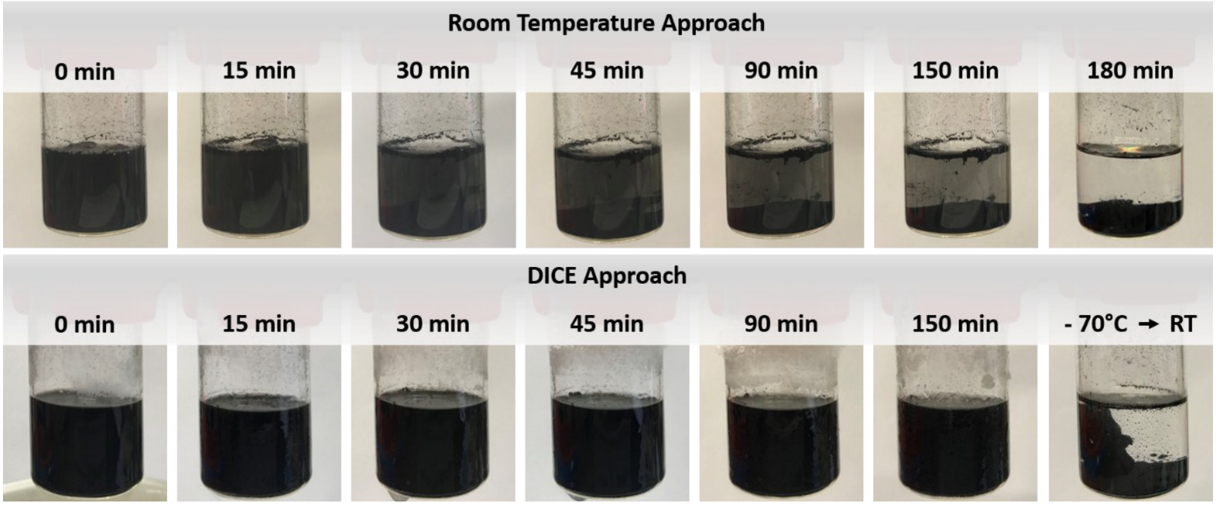
SI-Figure 1 TEM images (a) for synthesized Ni-gels at low temperature and room temperature and their diameter distribution diagrams (b). XRD patterns (c) were measured for both obtained Nickel gels as well.

Metal	ρ_{bulk} [g/cm^3]	RT		DICE	
		$\rho_{aerogel}$ [g/cm^3]	$\rho_{relative}$ [%]	$\rho_{aerogel}$ [g/cm^3]	$\rho_{relative}$ [%]
Pt	21,45	0,0907	0,42	0,0923	0,43
Pd	12,01	0,0524	0,44	0,0590	0,49
Au	19,32	0,1995	1,03	0,1640	0,85
Ag	10,49	0,2085	1,99	0,1364	1,30
Cu	8,92	0,0297	0,33	0,0423	0,47
Co	8,89	0,0385	0,43	0,0465	0,52

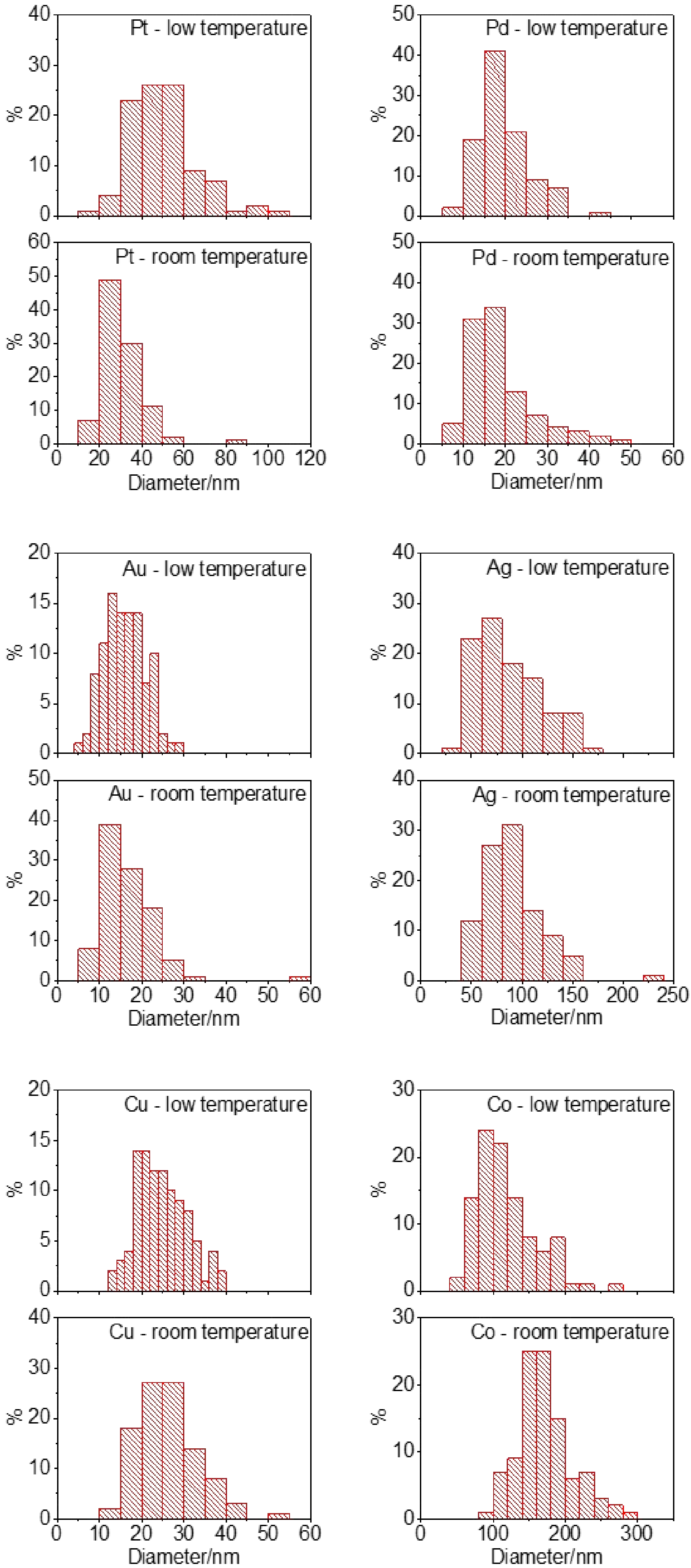
SI-Table 1 Estimated densities for each synthesized metal aerogel. The slightly increased densities are caused by the larger thickness of the nanoparticle chains the gels are built of compared to current aqueous approaches.



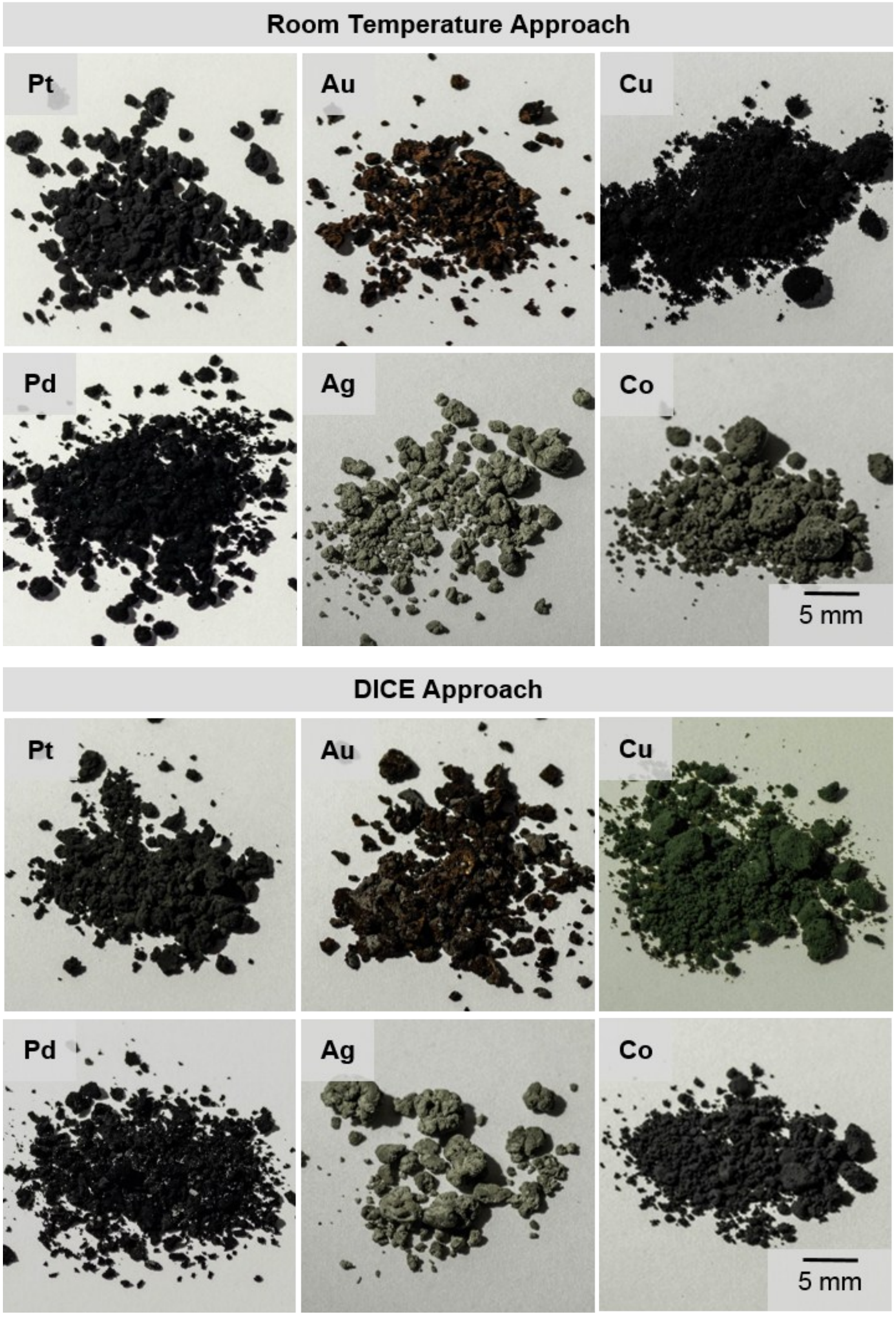
SI-Figure 2 Pore size distribution for all synthesized metal gels following the room temperature and DICE approach, calculated via the BJH-method.



SI-Figure 3 Gelation progress at different times for a Pd gel at room temperature and -70°C. The gelation is stopped at low temperatures and proceeds on by increasing the temperature.



SI-Figure 4 Diameter distribution diagrams for each metal gel synthesized at room and low temperatures.



SI-Figure 5 The majority of the dried gels are black. Inhomogeneitis in the color of a gel are caused by the wide range of the nanochain diameters, which is well observable for Au. Different colors of Cu and Co can be explained by the different rates of the oxidation progress.