

# Optical and Thermal Investigations of Eutectic Metallomesogen Mixtures Based on Salicylaldiaminates Metal Complexes with a Large Nematic Stability Range

Hassan-Ali Hakemi<sup>1,†</sup>, Valentina Roviello<sup>2,†</sup> and Ugo Caruso<sup>3,\*</sup>

<sup>1</sup> Plastic Liquid Crystal Technology, Via Lambro 80, 20846 Macherio (MB), Italy

<sup>2</sup> Department of Chemical, Materials and Industrial Production Engineering (DICMaPI), University of Naples Federico II, Naples, 80125, Italy

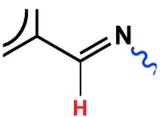
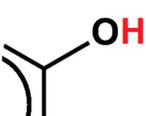
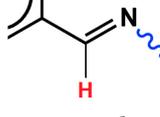
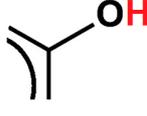
<sup>3</sup> Department of Chemical Sciences, University of Napoli Federico II, Strada Comunale Cinthia, 26, Napoli, 80126, Italy

\* Correspondence: ugo.caruso@unina.it

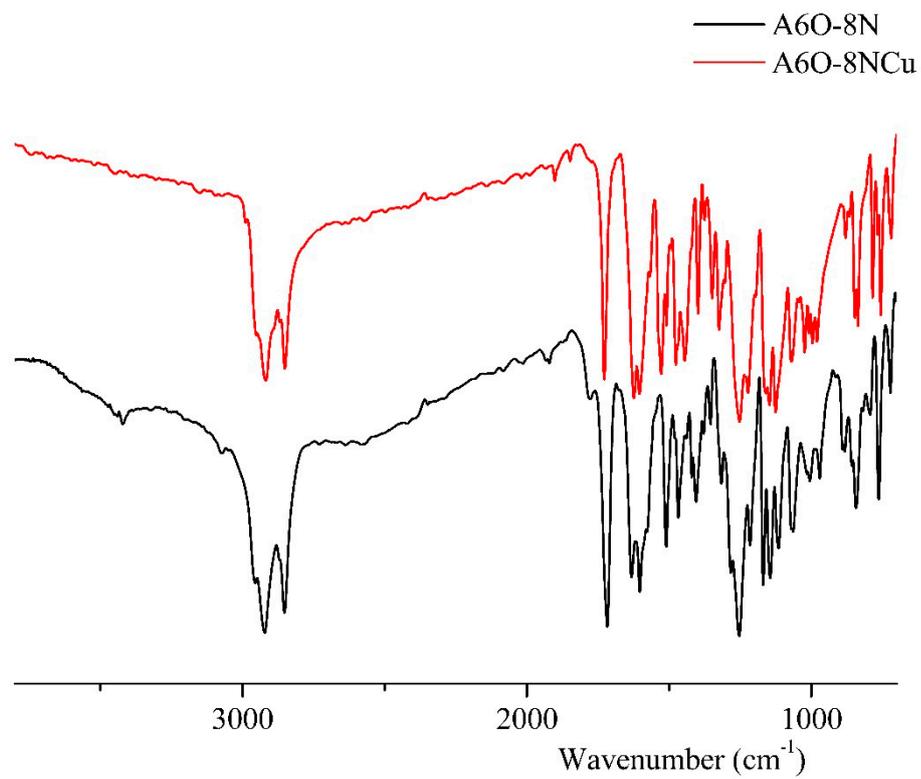
† These authors contributed equally to this work.

## Supporting Information

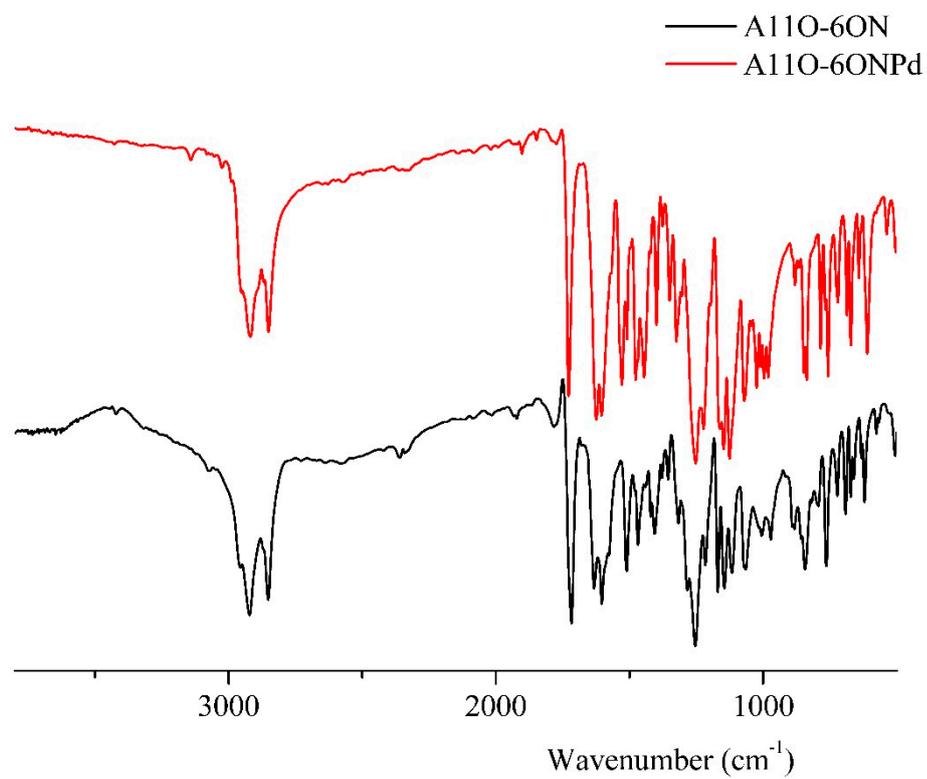
**Table S1.** More relevant <sup>1</sup>H NMR and IR data for ligand and related metal complexes.

Compound				
	$\delta / \text{ppm}^{\text{a}}$	$\delta / \text{ppm}^{\text{b}}$	wavenumber / $\text{cm}^{-1} \text{ }^{\text{c}}$	wavenumber / $\text{cm}^{-1} \text{ }^{\text{d}}$
12-8N	3.68	10.54	1718	3422
12-8NCu			1726	-
A11O-6ON	3.68	10.54	1708	3431
A11O-6ONNi	4.11	-	1728	-
A11O-6ONPd	4.13	-	1735	-

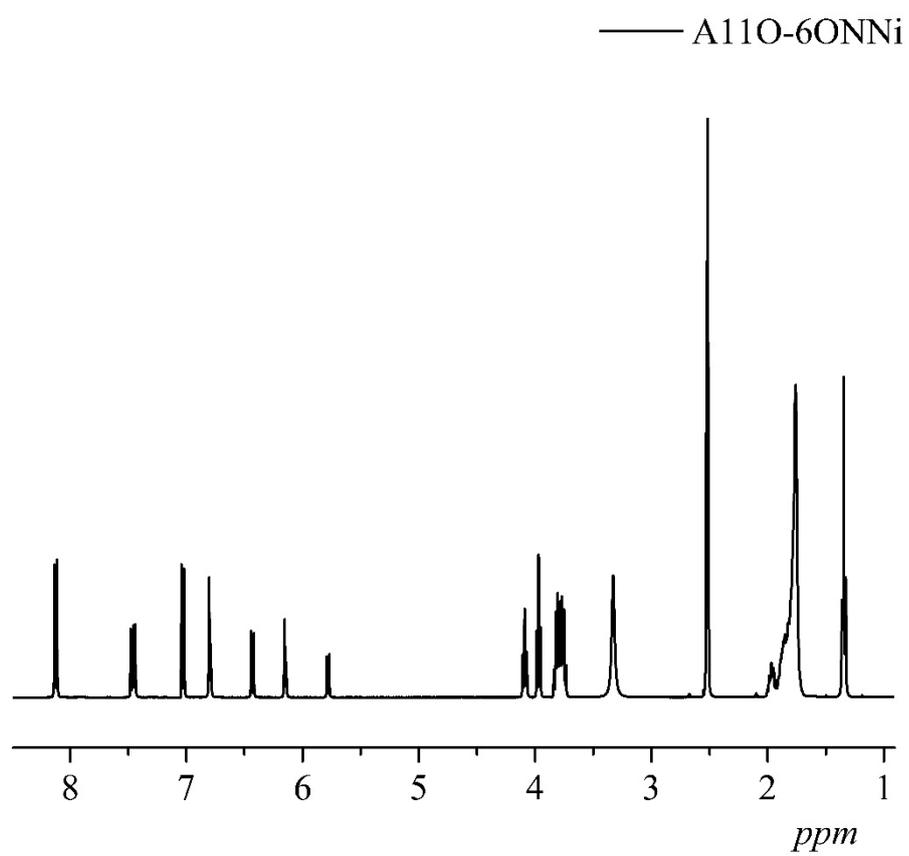
<sup>a</sup> TMS chemical shift in ppm of proton of imine; <sup>b</sup> TMS chemical shift in ppm of phenolic proton; <sup>c</sup> IR wavenumber in  $\text{cm}^{-1}$  of proton of imine; <sup>d</sup> TMS chemical shift in ppm of phenolic proton



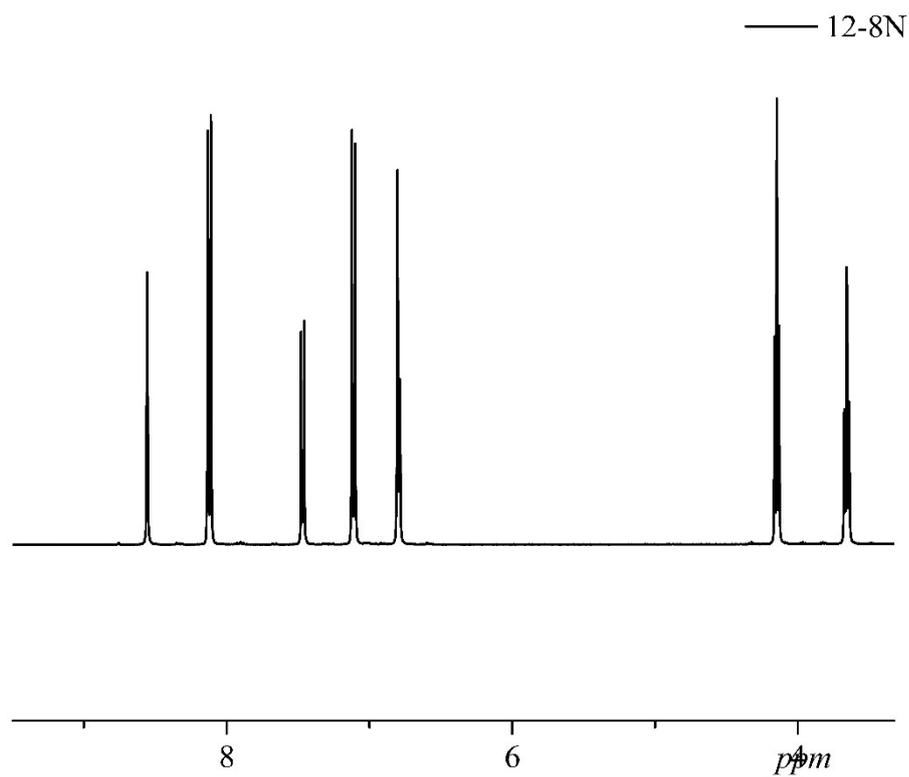
**Figure S1.** FTIR curves for of A6O-8N (black) and A6O-8NCu (red)



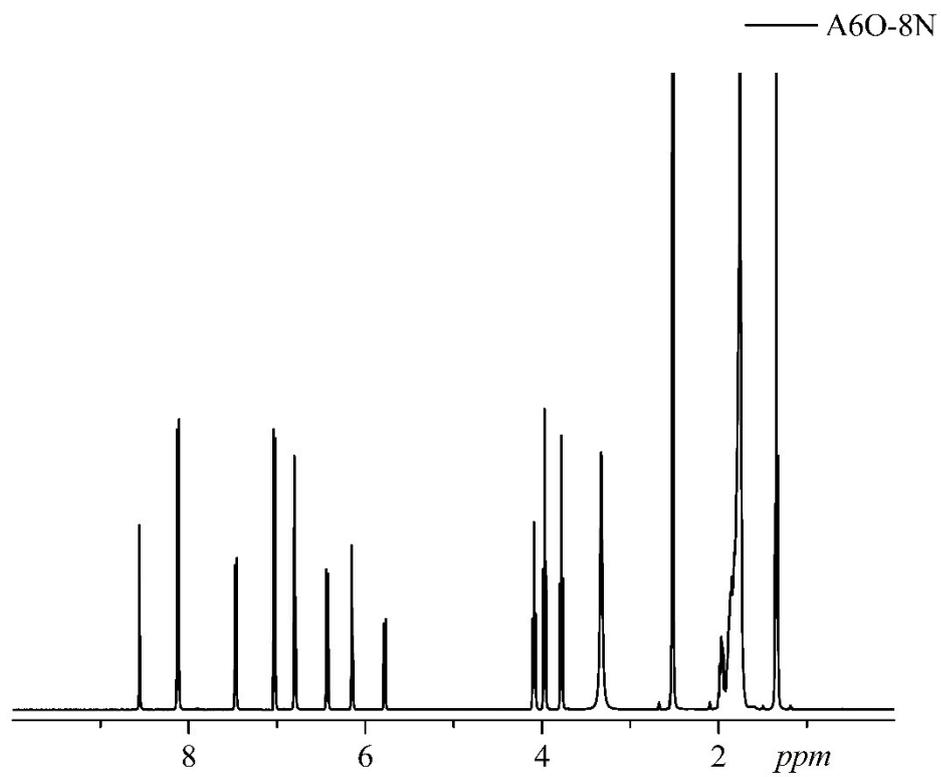
**Figure S2.** FTIR curves for of A11O-6ON (black) and A11O-6ONCu (red)



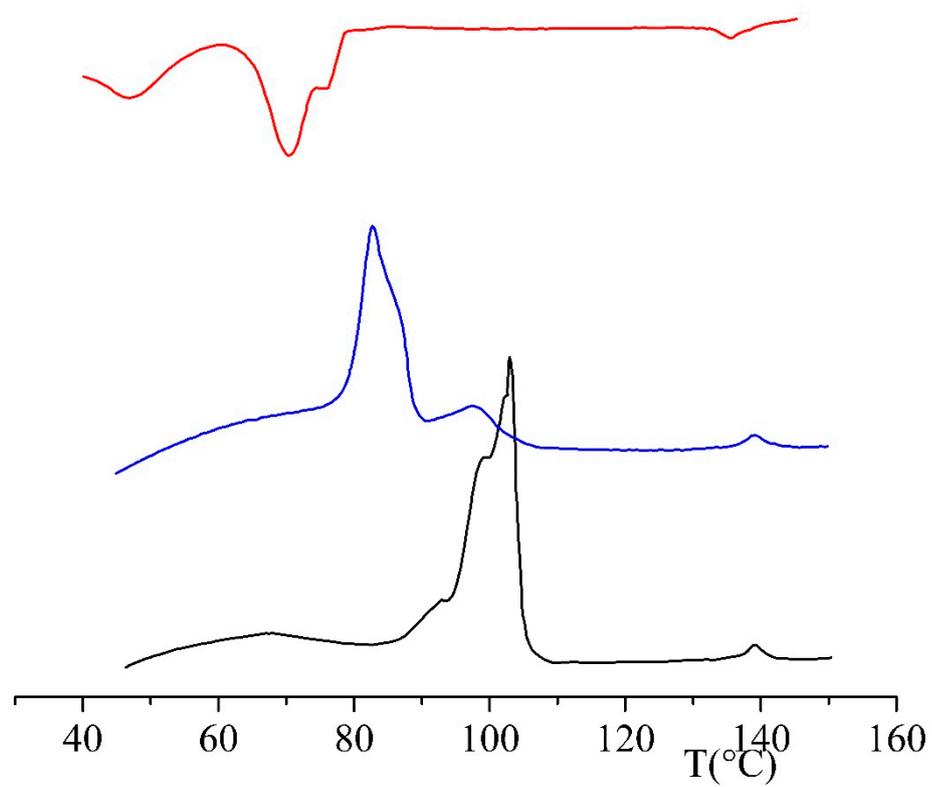
**Figure S3.**  $^1\text{H}$  NMR curves of A11O-6ONNi



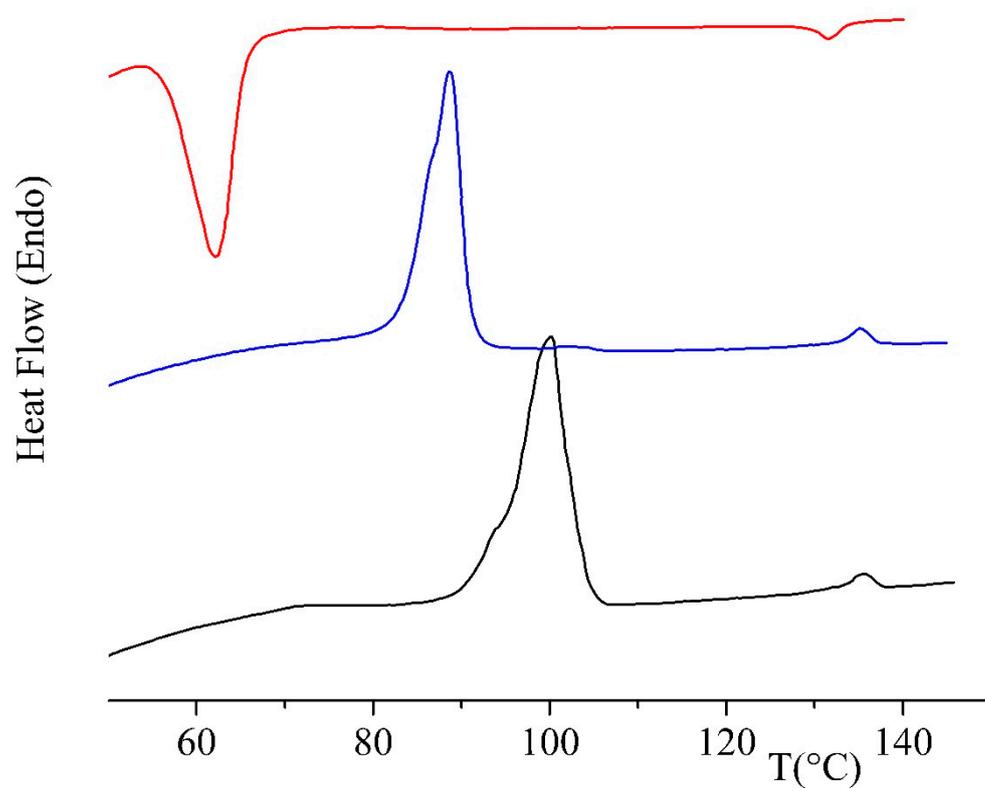
**Figure S4.**  $^1\text{H}$  NMR curves for of 12-8N



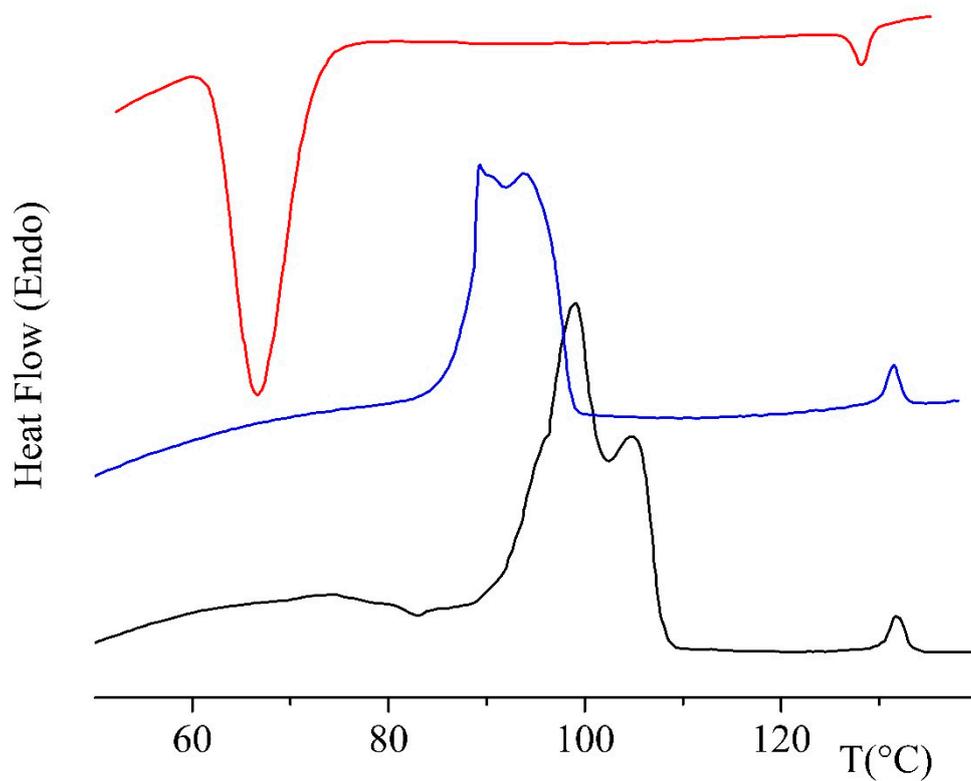
**Figure S5.**  $^1\text{H}$  NMR curves for of A6O-8N



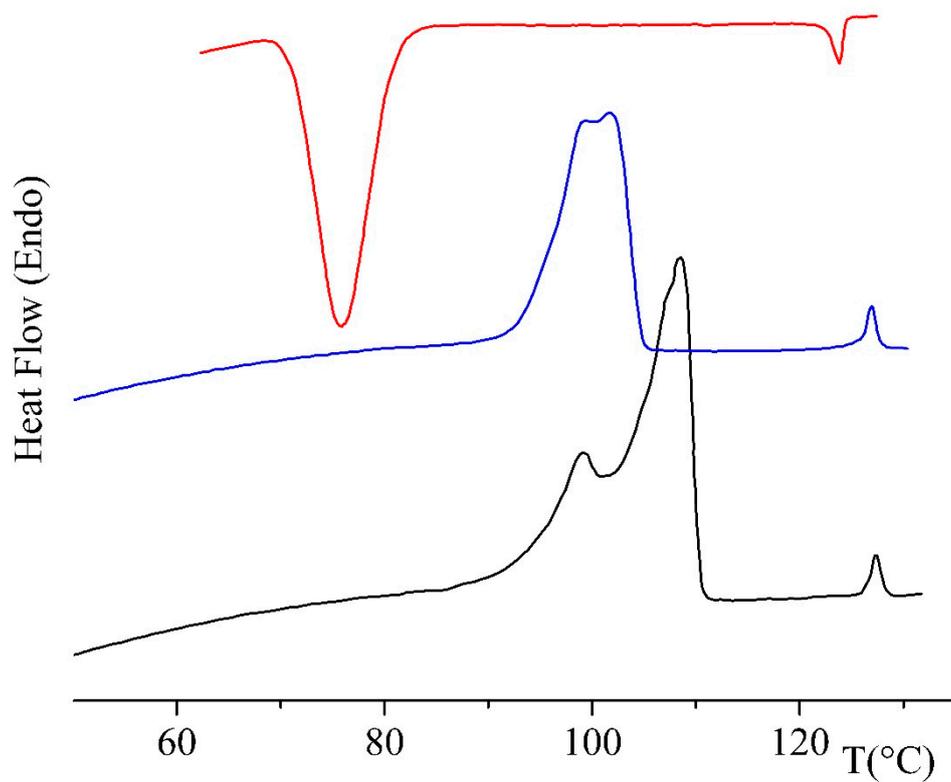
**Figure S6.** DSC thermograms of for A11O-6ONNi/A11O-6ONPd blends with composition of 0.207 wt./wt.: (black) first heating; (red) first cooling run and (blue) second heating run at 10 K/min scanning rate.



**Figure S7.** DSC thermograms of for A11O-6ONNi/A11O-6ONPd blends with composition of 0.401 wt./wt.: (black) first heating; (red) first cooling run and (blue) second heating run at 10 K/min scanning rate.



**Figure S8.** DSC thermograms of for A11O-6ONNi/A11O-6ONPd blends with composition of 0.606 wt./wt.: (black) first heating; (red) first cooling run and (blue) second heating run at 10 K/min scanning rate.



**Figure S9.** DSC thermograms of for A11O-6ONNi/A11O-6ONPd blends with composition of 0812 wt./wt.: (black) first heating; (red) first cooling run and (blue) second heating run at 10 K/min scanning rate.