

## Electronic Supplementary Information

### Structural and Raman spectroscopic characterization of tetrapyridinesilver(I) perrhenate, [Agpy<sub>4</sub>]ReO<sub>4</sub>

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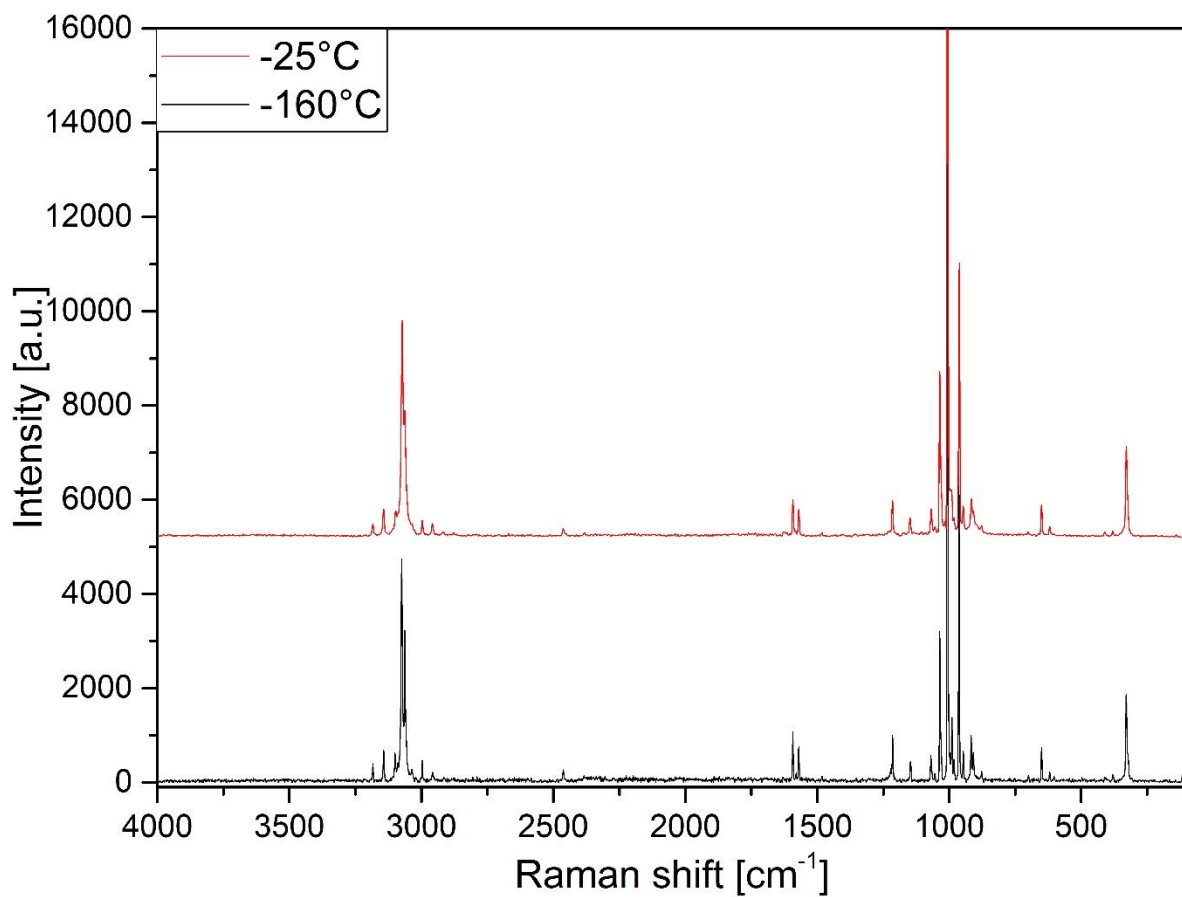
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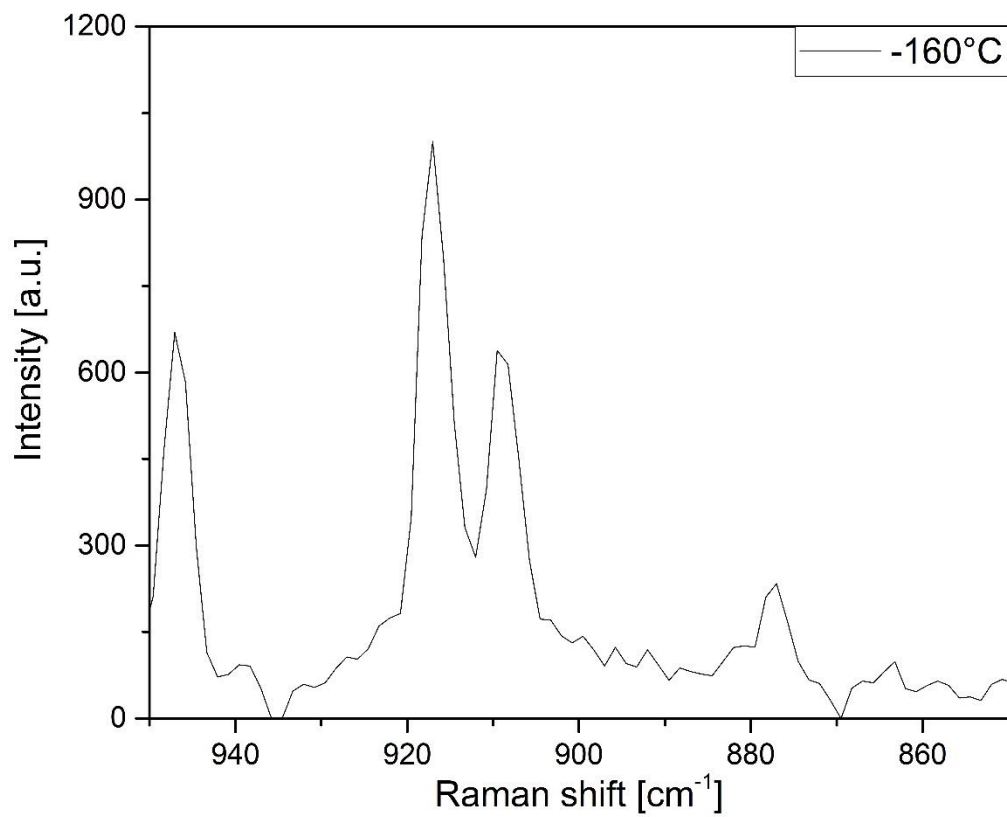
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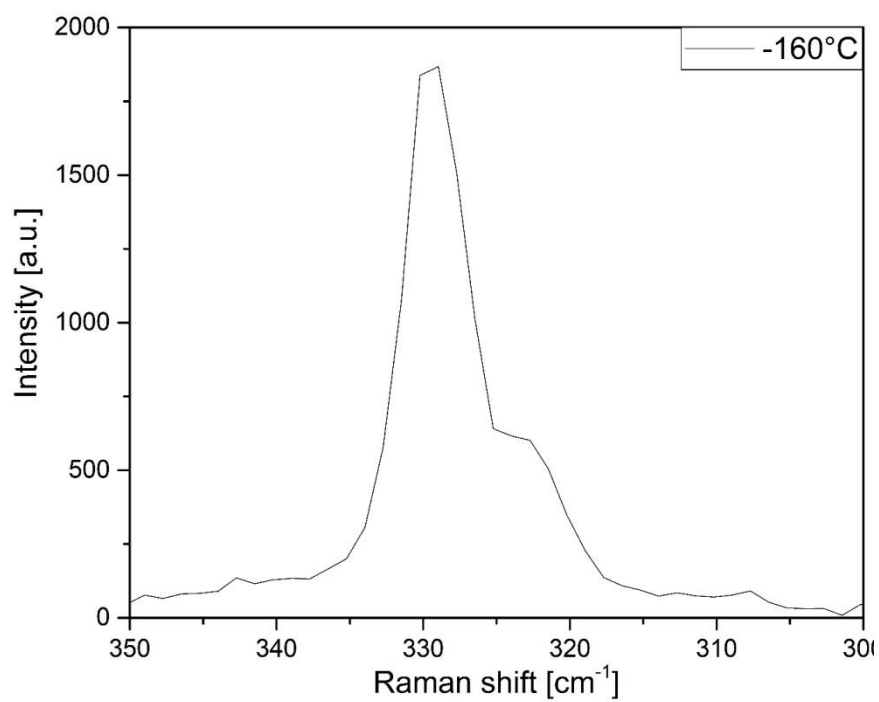
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**ESI Fig. 1.** Raman spectra of the compound at 113 K and 247 K between 4000 and  $100\text{ cm}^{-1}$



**ESI Fig. 2.** Raman spectrum of the compound at 113 K between 850 and 950 cm<sup>-1</sup>



**ESI Fig. 3.** Raman spectrum of the compound at -160 °C between 300 and 350 cm<sup>-1</sup>

**ESI Table 1.** Assignment of pyridine vibrations in the Raman spectrum of the studied compound at 113 K

$C_{2v}$	$\nu$		Compound 1	Pyridine
A <sub>1</sub> (in plane)	1	C-H stretch	3076	3076
	2	C-H stretch	3062	3060
	3	C-H stretch	3037	3030
	4	Ring stretch	1592	1578
	5	Ring stretch	1480	1483
	6	C-H wag	1215	1217
	7	C-H wag	1072	1071
	8	Ring bend	1039	1031
	9	Ring breathing	859	858
	10	Ring bend	619	601
A <sub>2</sub> (out of plane)	11	C-H wag	983	982
	12	C-H wag	878	887
	13	Ring bend	-	-
B <sub>1</sub> (out of plane)	14	C-H wag	1007	997
	15	C-H wag	-	-
	16	C-H wag	-	-
	17	Ring bend	-	-
	18	Ring bend	-	-
B <sub>2</sub> (in-plane)	19	C-H stretch	3062	3066
	20	C-H stretch	3037	3030
	21	Ring stretch	1570	1577
	22	Ring stretch	1446	1443
	23	C-H wag	1355	-
	24	Ring stretch	1222	1227
	25	C-H wag	1149	-
	26	C-H wag	1067	1068
	27	Ring bend	649	654