

## SUPPLEMENTARY MATERIAL

### 1. Analysis of the possible hydrogen bonds.

Table 1. Distances between the nitrogen atoms of the ammonium groups and the possible H-bond acceptor atoms.

Donor-Acceptor	Distance (Å)
N(1)-(4)	2.829(7)
N(1)-F(2) <sup>i</sup>	2.840(7)
N(1)-O(3) <sup>ii</sup>	2.870(5)
N(1)-O(2) <sup>iii</sup>	2.997(6)
N(1)-O(1)	3.137(7)
N(1)-O(5) <sup>ii</sup>	3.172(7)
N(1)-F(1) <sup>i</sup>	3.225(6)
N(1)-O(6) <sup>ii</sup>	3.251(8)
N(1)-O(7) <sup>i</sup>	3.282(7)
N(2)-O(6)	2.760(6)
N(2)-O(5) <sup>iv</sup>	2.762(8)
N(2)-O(7) <sup>v</sup>	2.856(7)
N(2)-F(1) <sup>vi</sup>	2.925(7)
N(2)-O(3) <sup>vii</sup>	3.033(8)
N(2)-O(4) <sup>iv</sup>	3.119(8)
N(2)-F(2) <sup>vii</sup>	3.307(7)
N(2)-O(8) <sup>iv</sup>	3.433(7)
N(2)-O(1) <sup>vi</sup>	3.458(8)

<sup>i</sup>= 1/2-x,-1/2+y,-1/2+z      <sup>v</sup>= -1/2+x,3/2-y,z  
<sup>ii</sup>= -x,-y,-1/2+z            <sup>vi</sup>= -1/2+x,1/2-y,z  
<sup>iii</sup>= x,-1+y,z                 <sup>vii</sup>= -x,1-y,-1/2+z  
<sup>iv</sup>= x,1+y,z

## 2. Impedance Spectroscopy Results.

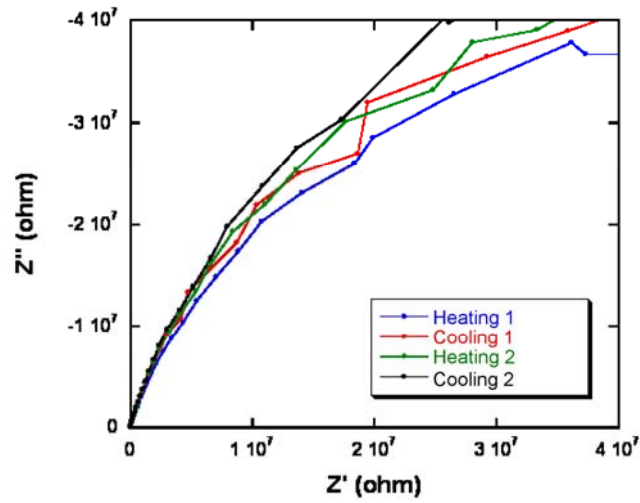


Fig. 1. Impedance spectrum of the heating and cooling processes at 220 °C.

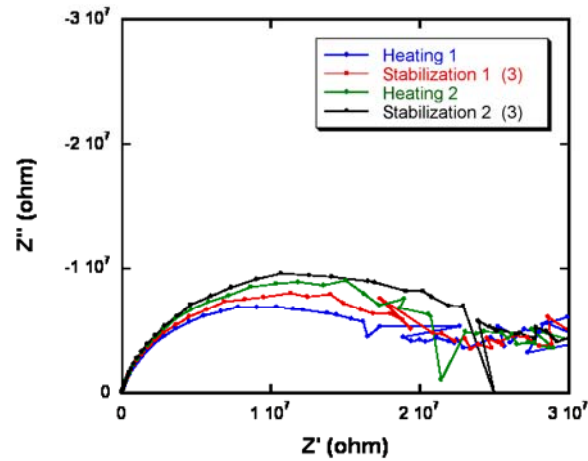


Fig. 2. Impedance spectrum of the heating and cooling processes at 260 °C.

Table 2.- Capacity and resistance values obtained from the fitting of the impedance spectra by means of simulation, with Zview software, at various temperatures.

Tempertura (°C)	C (F)	R (ohm)
260	$1.624 \cdot 10^{-11}$	$2.6498 \cdot 10^7$
240	$1.5336 \cdot 10^{-11}$	$5.5517 \cdot 10^7$
220	$1.7189 \cdot 10^{-11}$	$1.2323 \cdot 10^8$

Tabla 3.- Conducivity values obtained from the resistances at various temperature. Valores

Tempertura (°C)	$\sigma$ (S/cm)
260	$8.734 \cdot 10^{-9}$
240	$4.169 \cdot 10^{-9}$
220	$1.878 \cdot 10^{-9}$