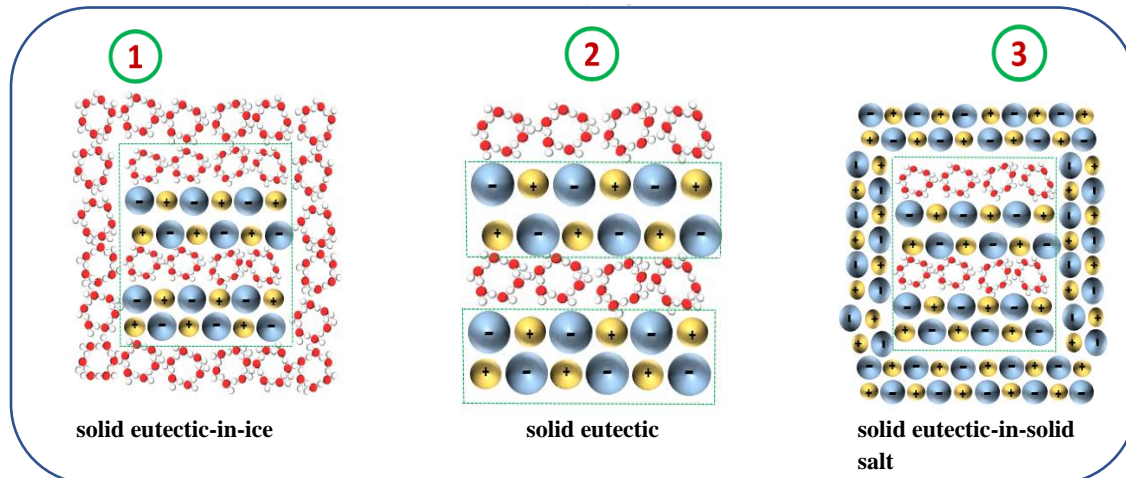
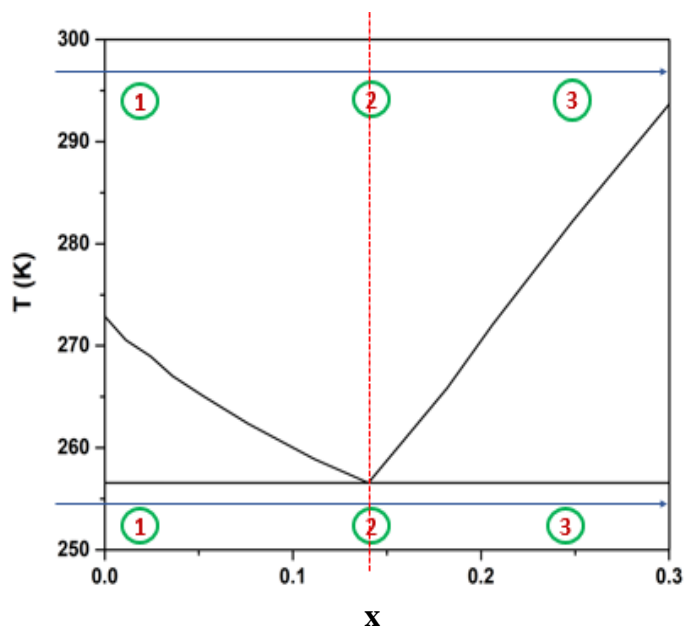
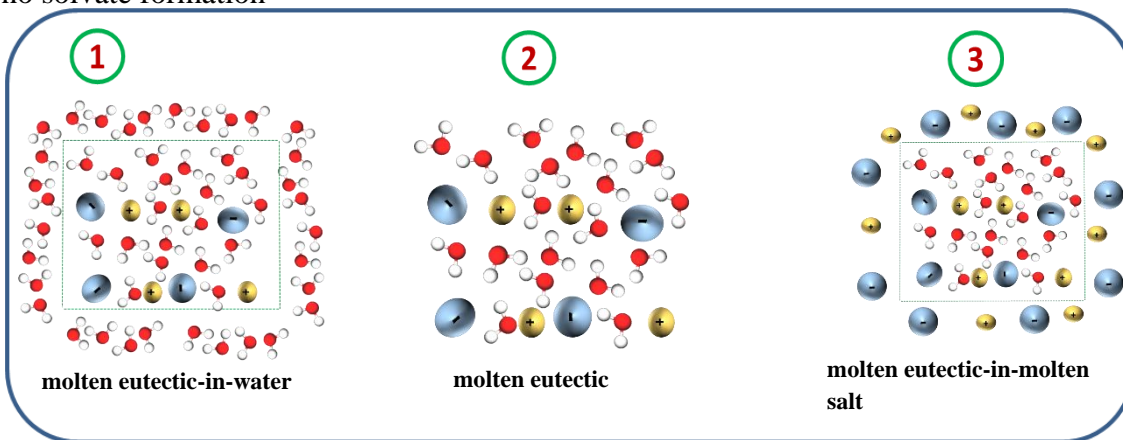
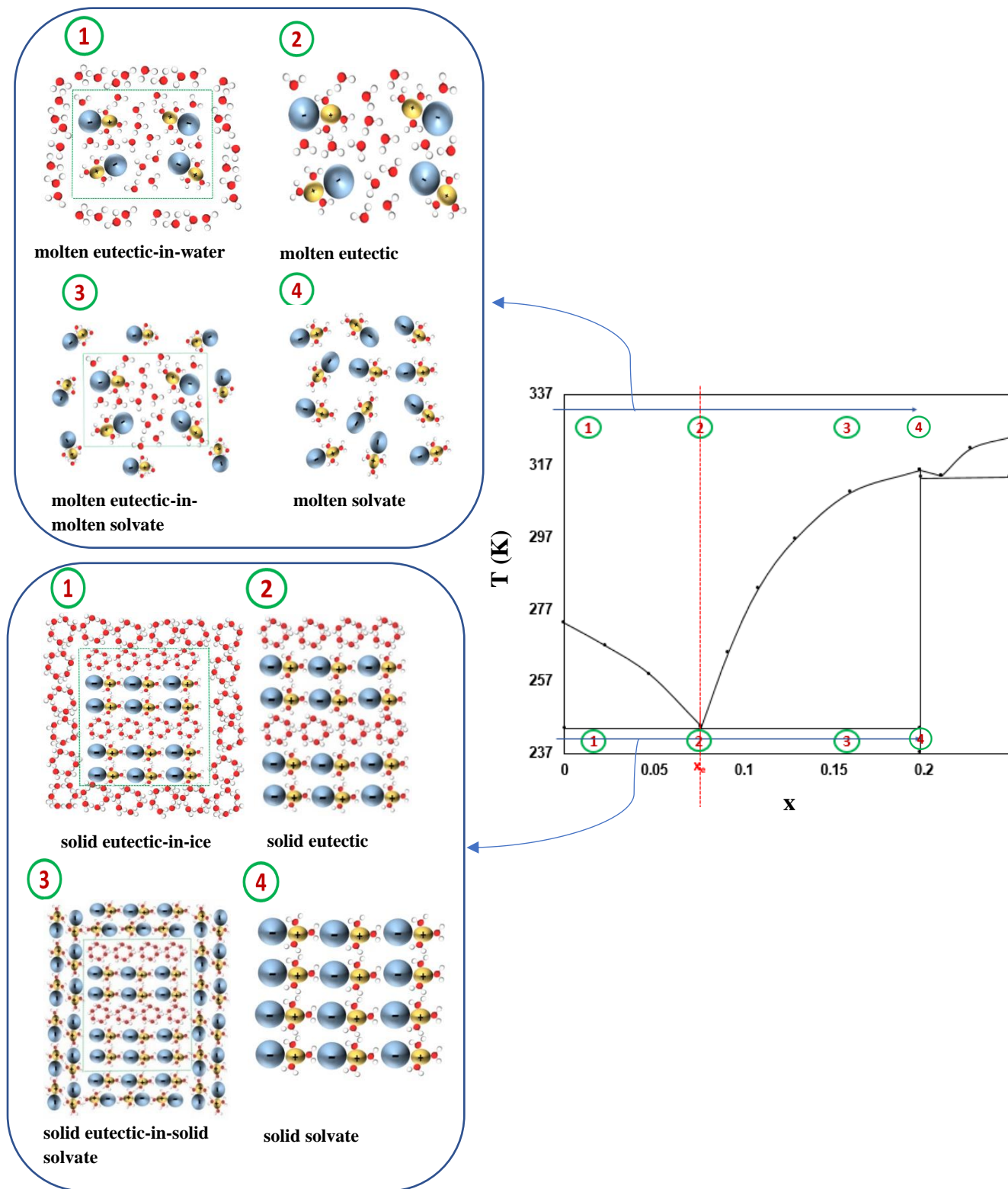


## Supplementary Information (S.I)

**Figure S.1:** Isothermal structural variation at high and low temperatures in a phase diagram with no solvate formation

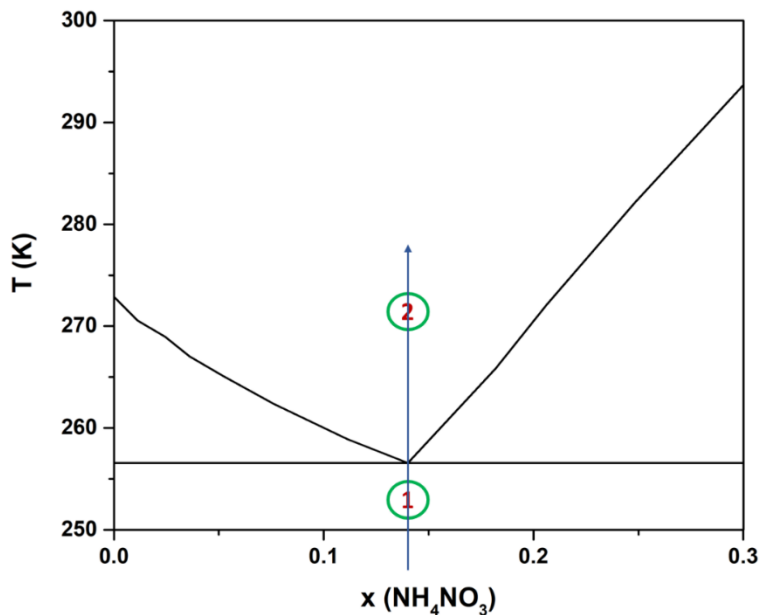


**Figure S.2:** Isothermal structural variation at high and low temperatures in a phase diagram with solvate formation



**Fig. S.3: Microstructure schematic Illustration for every molar concentration/temperature**

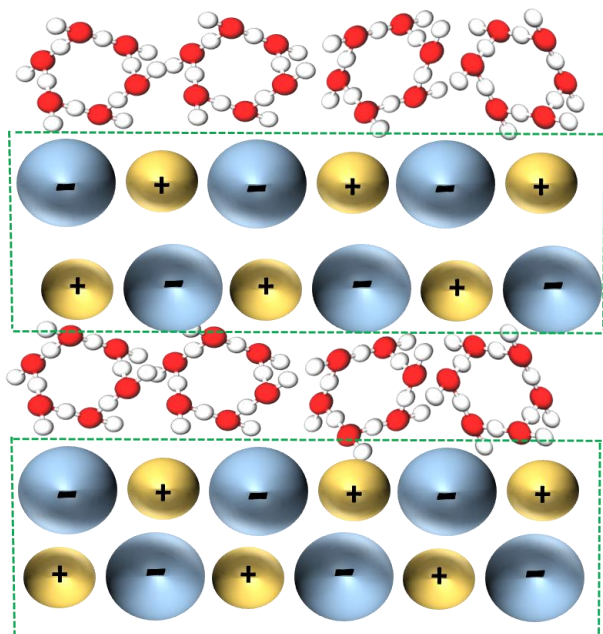
Iso-compositional structural variation in the case of:



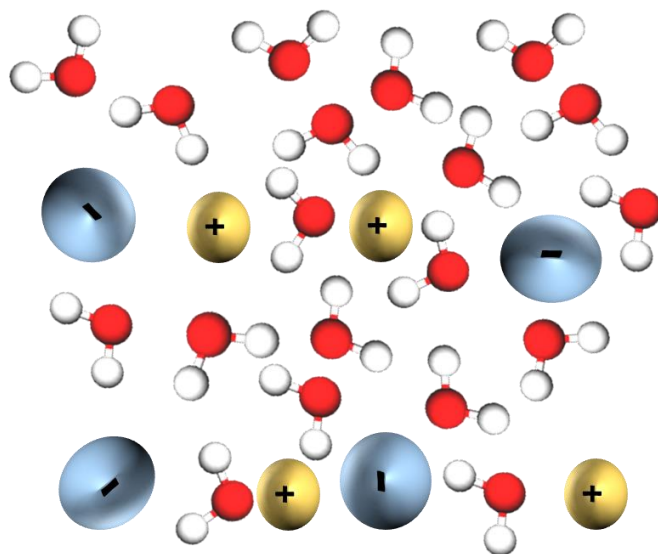
**I. Phase diagram with no solvate formation**

a.  $x = x_c$

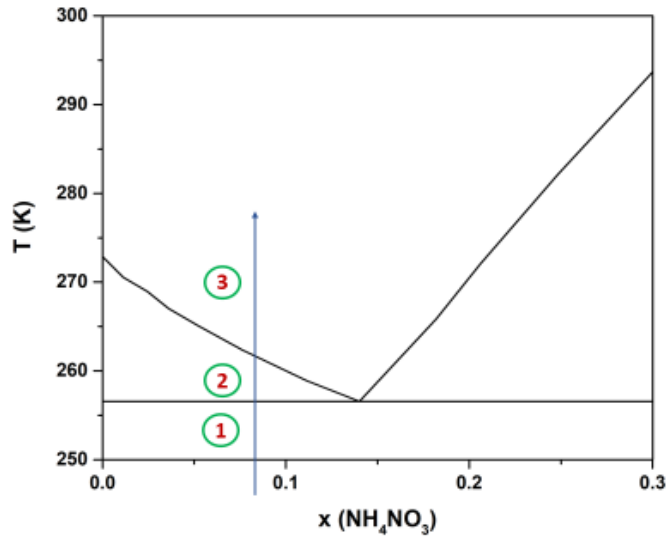
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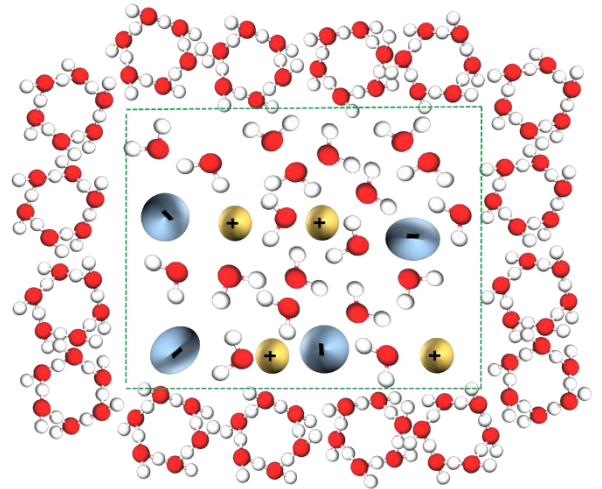
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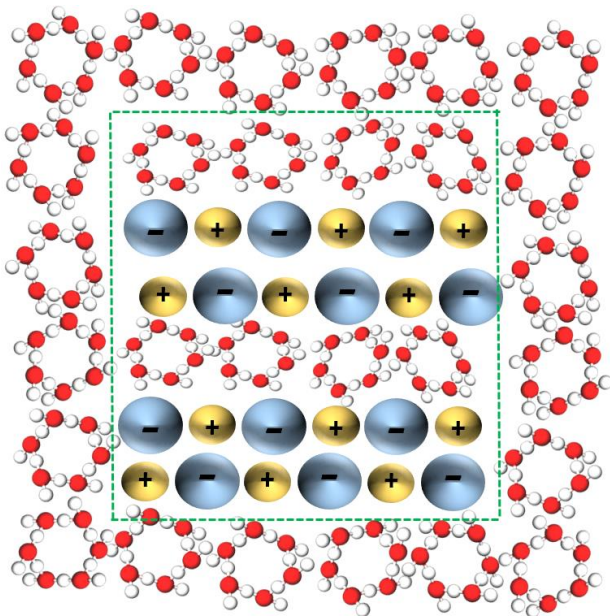
b. At  $x < x_e$ :



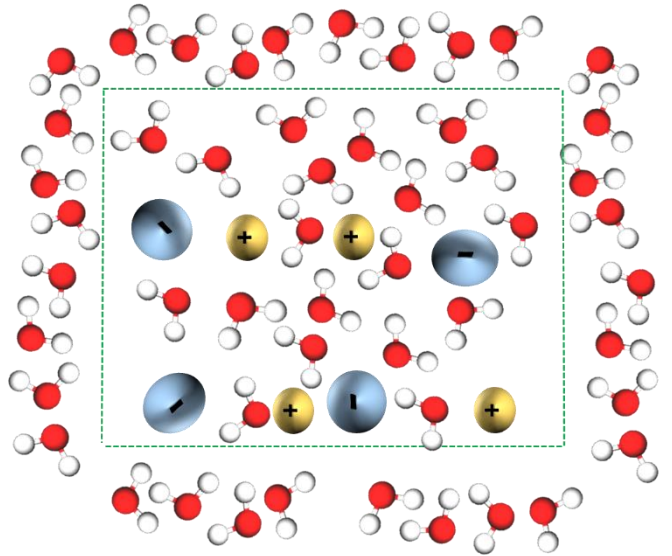
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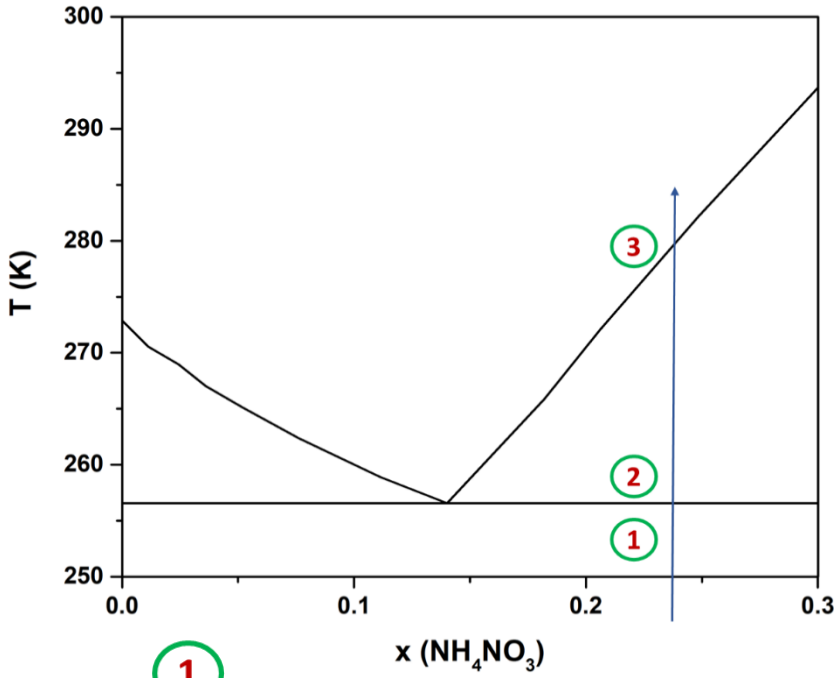
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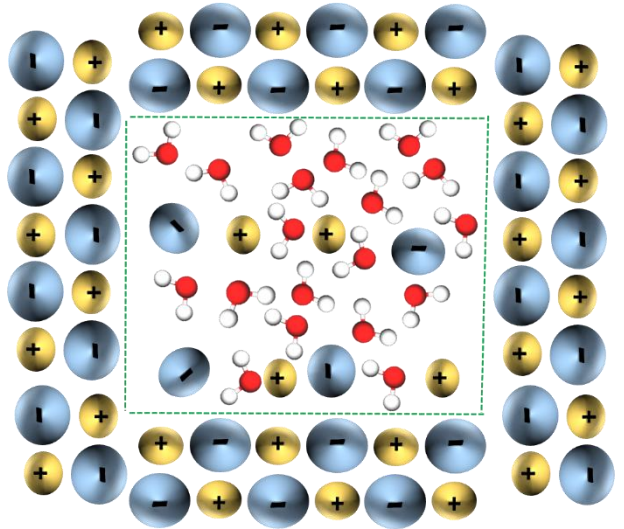
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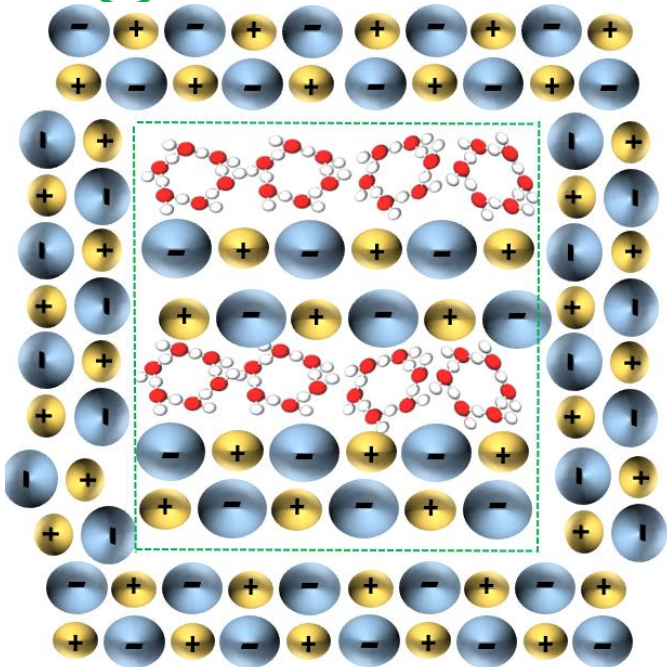
c. At  $x > x_e$



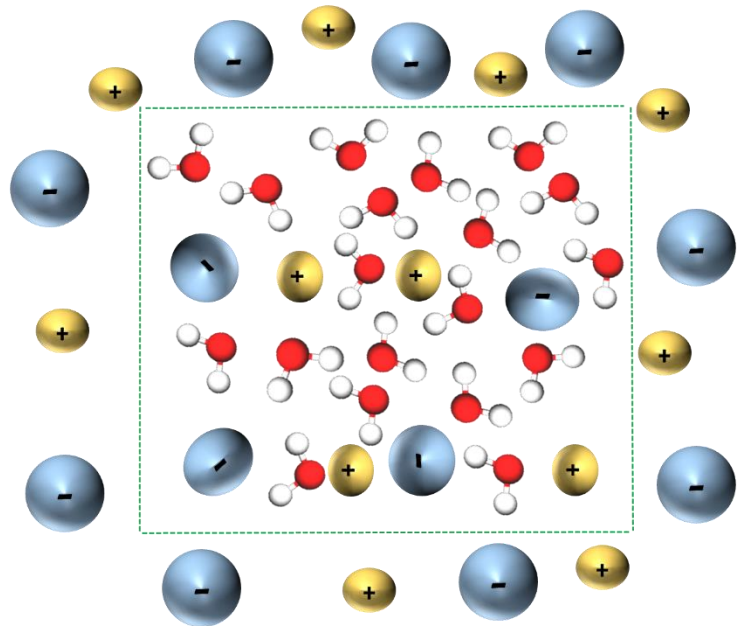
2



1

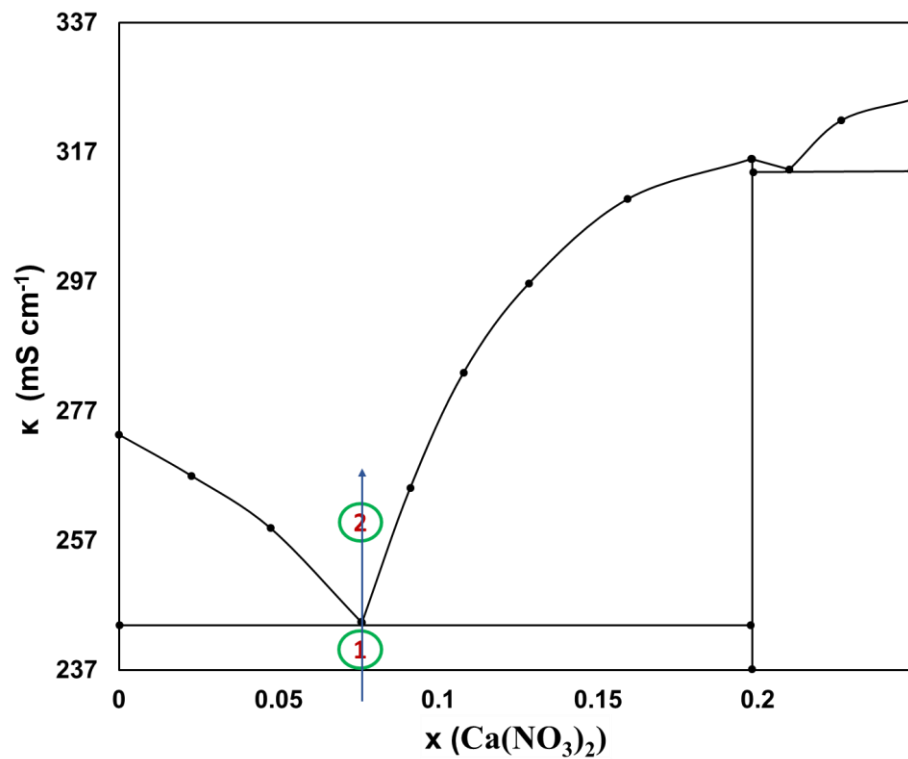


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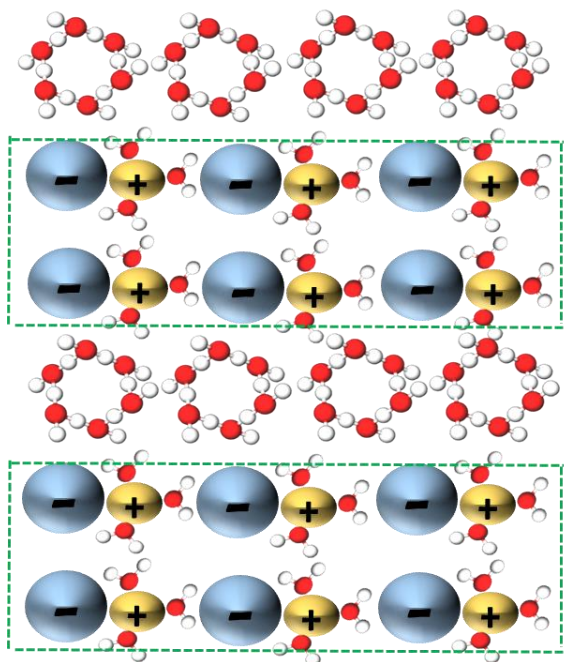


## II. Phase diagram with solvate formation

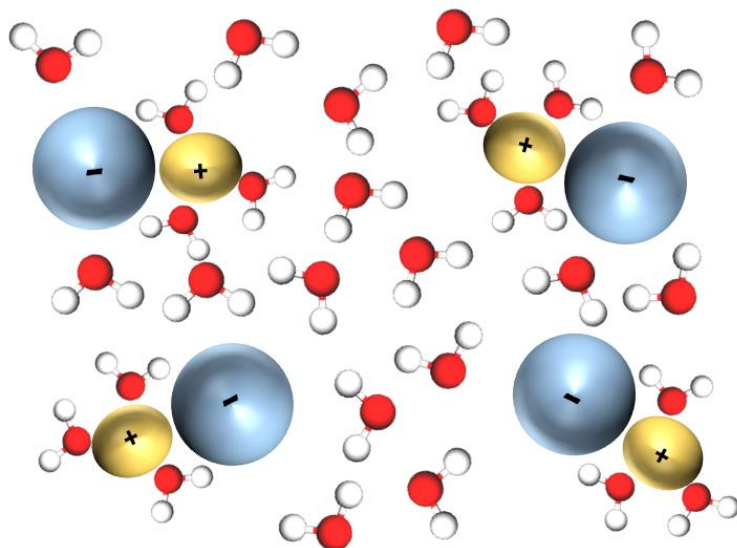
a.  $X = \text{XeI}$



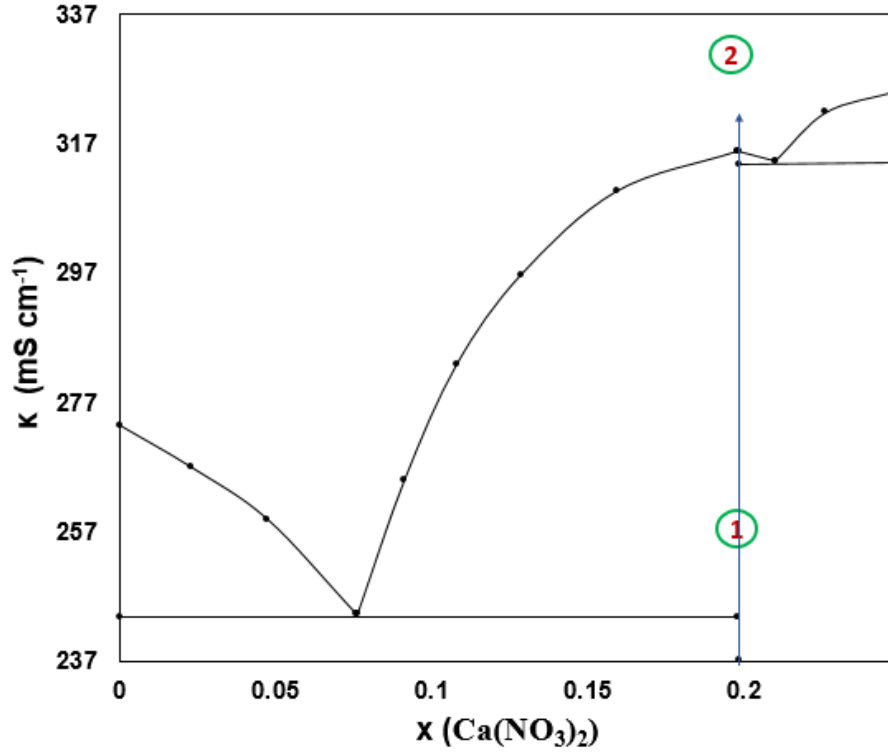
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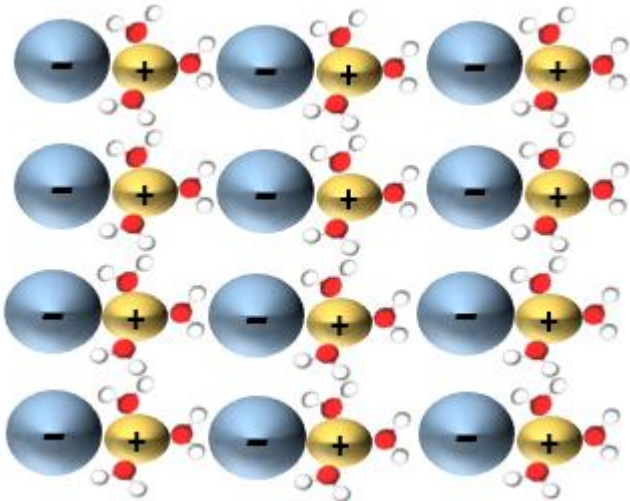
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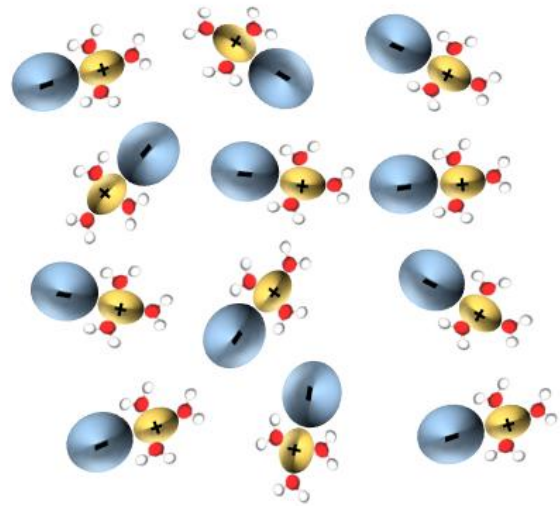
b.  $x = x_s$



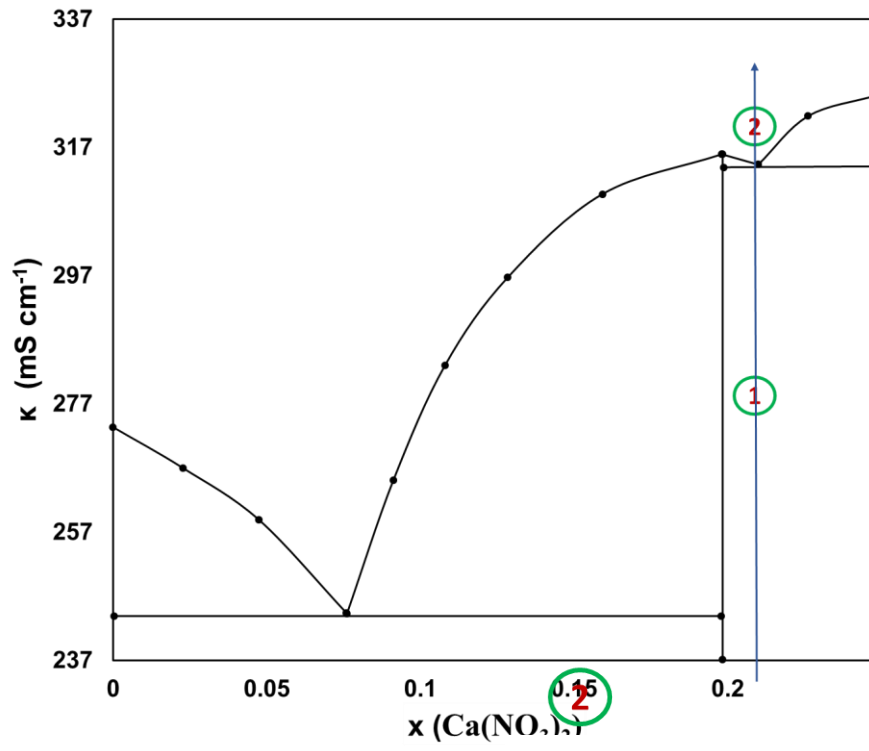
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2

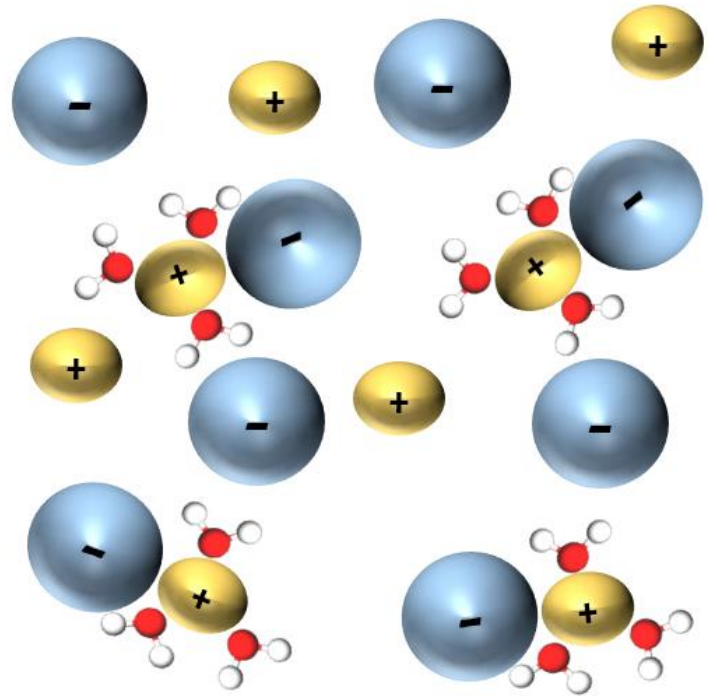
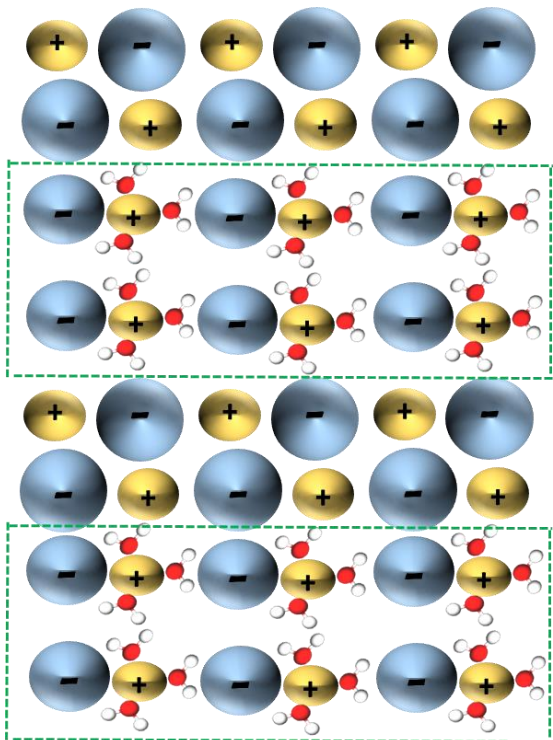


c.  $X = Xe_2$



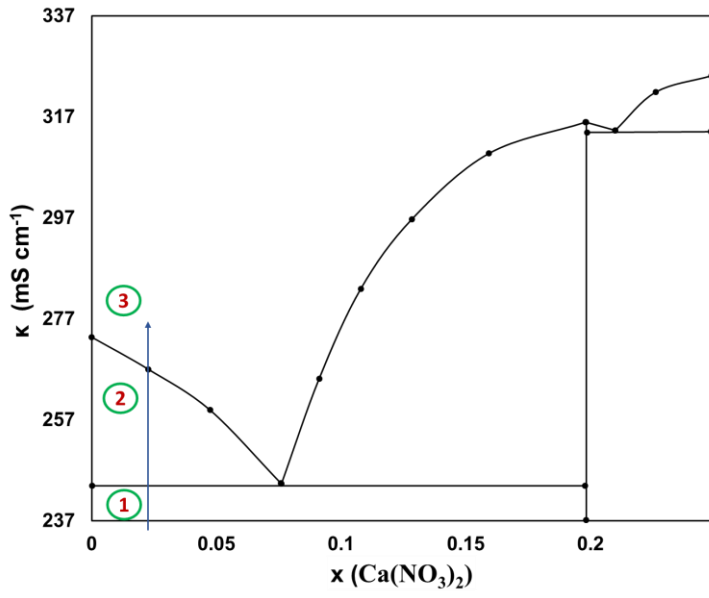
1

2

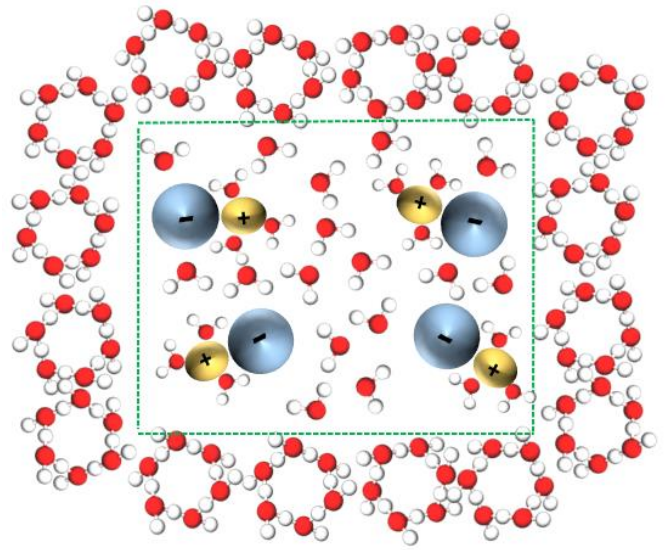


d.  $X < Xe_1$

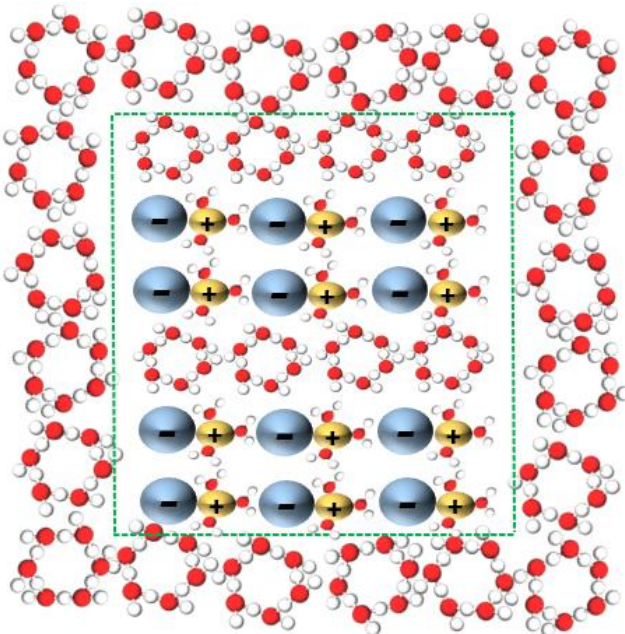
d.  $x < x_{e1}$



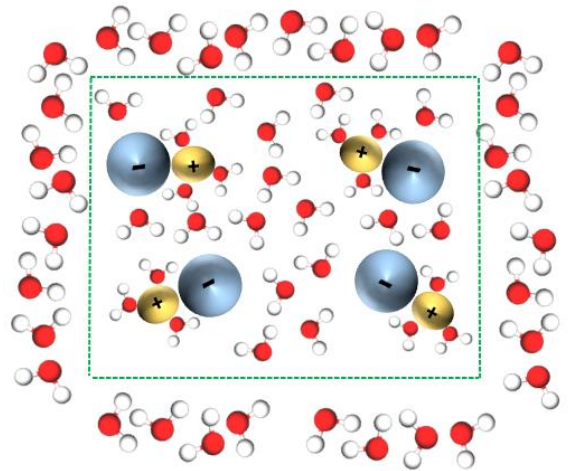
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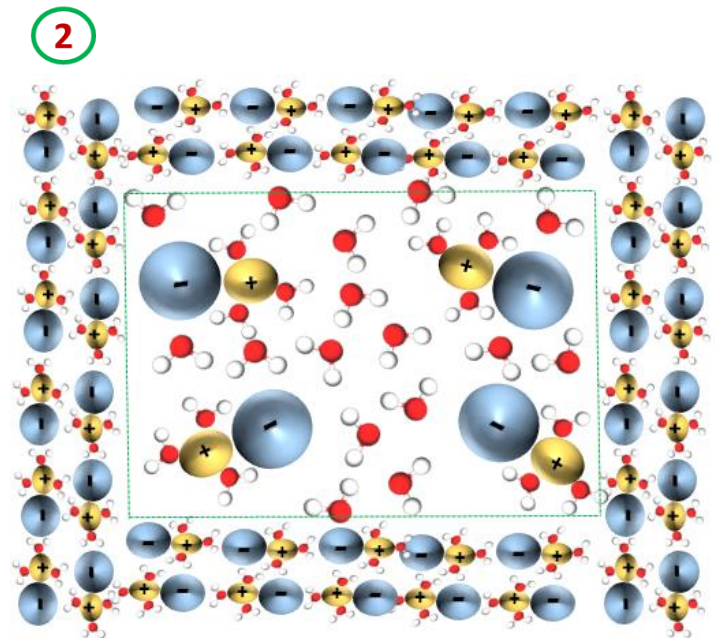
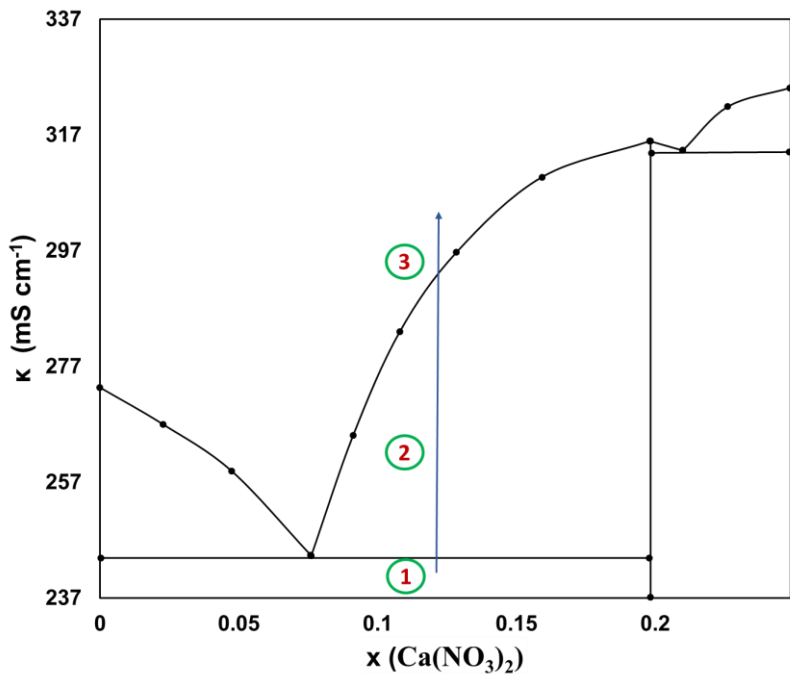
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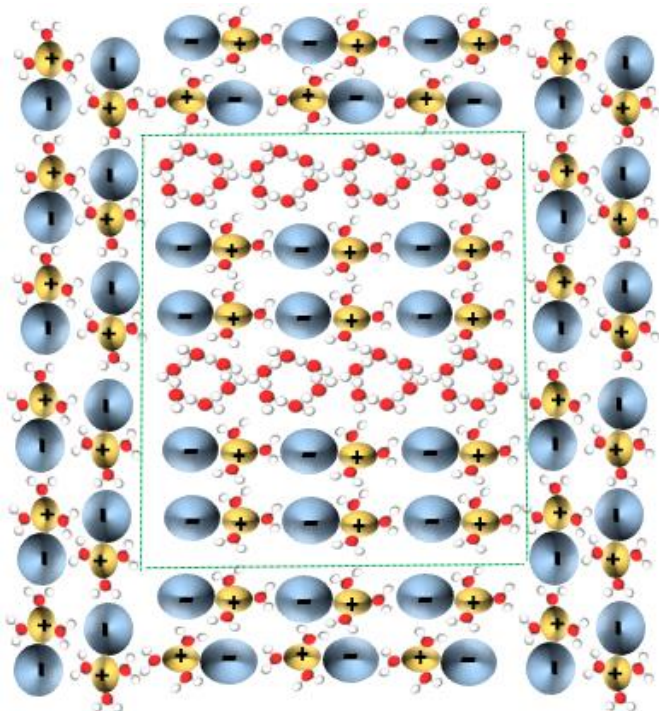
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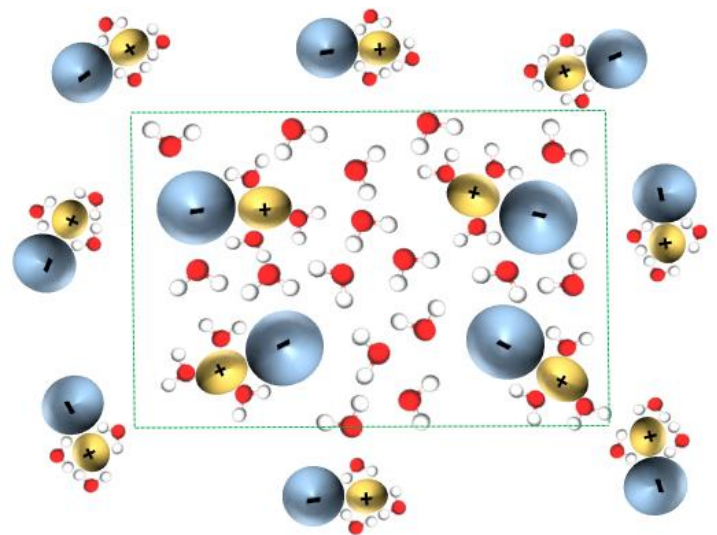
e.  $X_{el} < X < X_s$



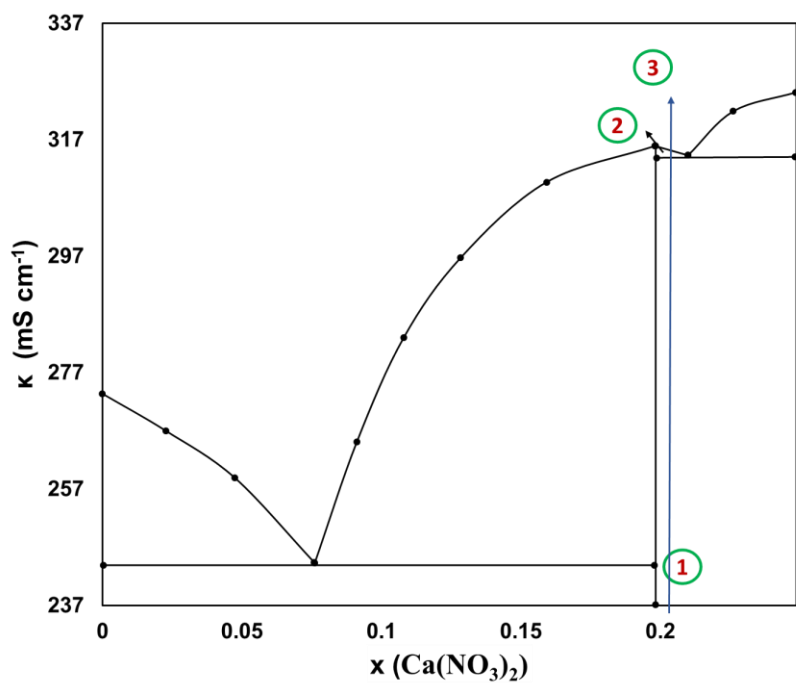
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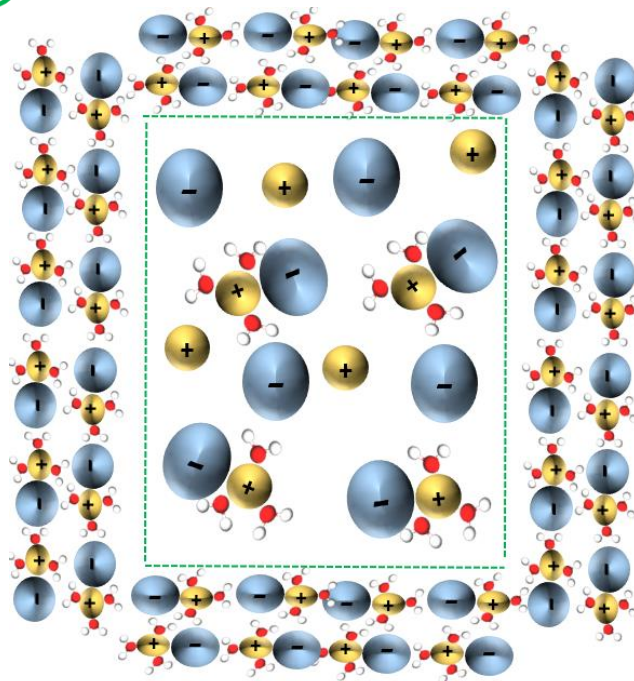
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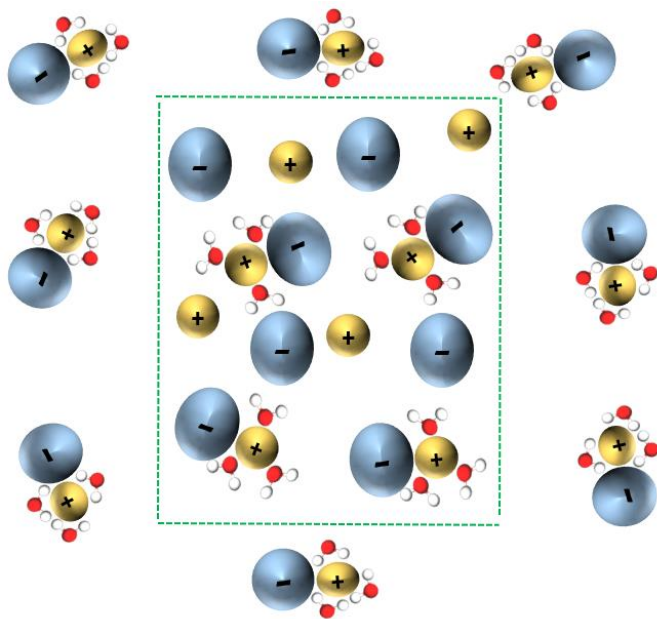
f.  $x_s < x < x_{e2}$



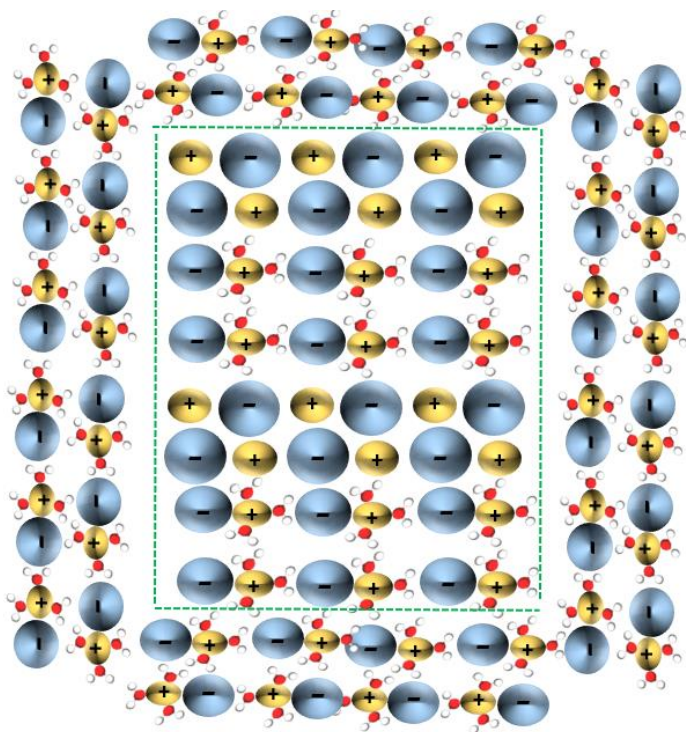
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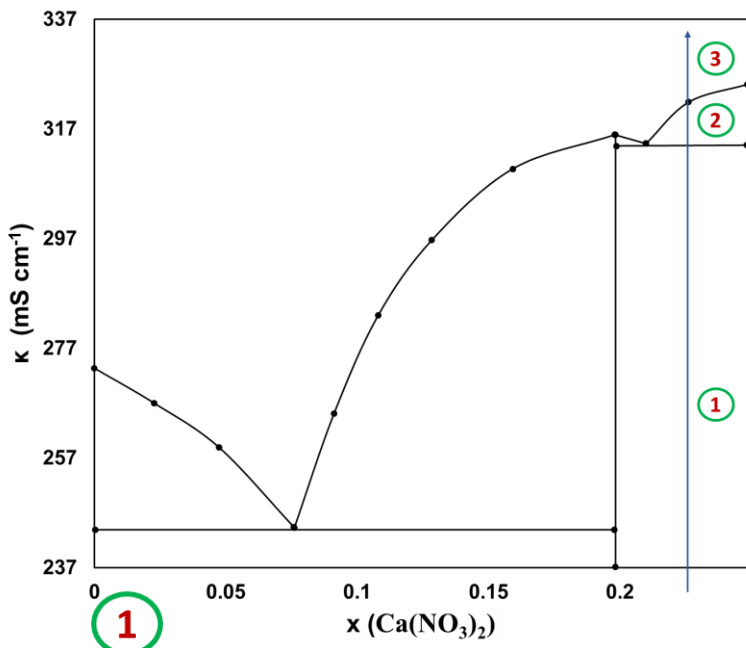
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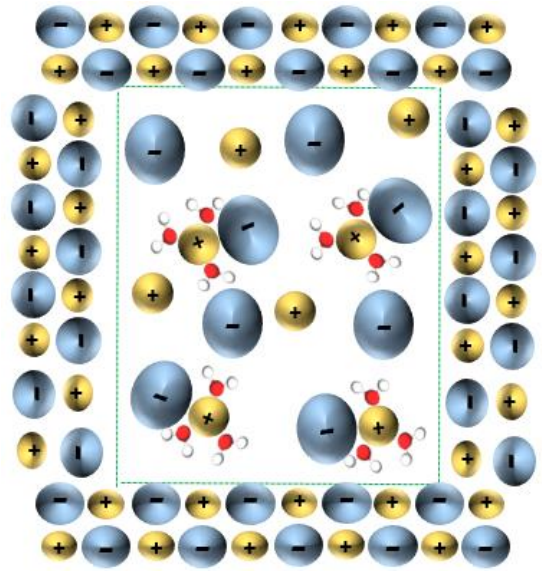
1



g.  $x > x_{e2}$



2



3

