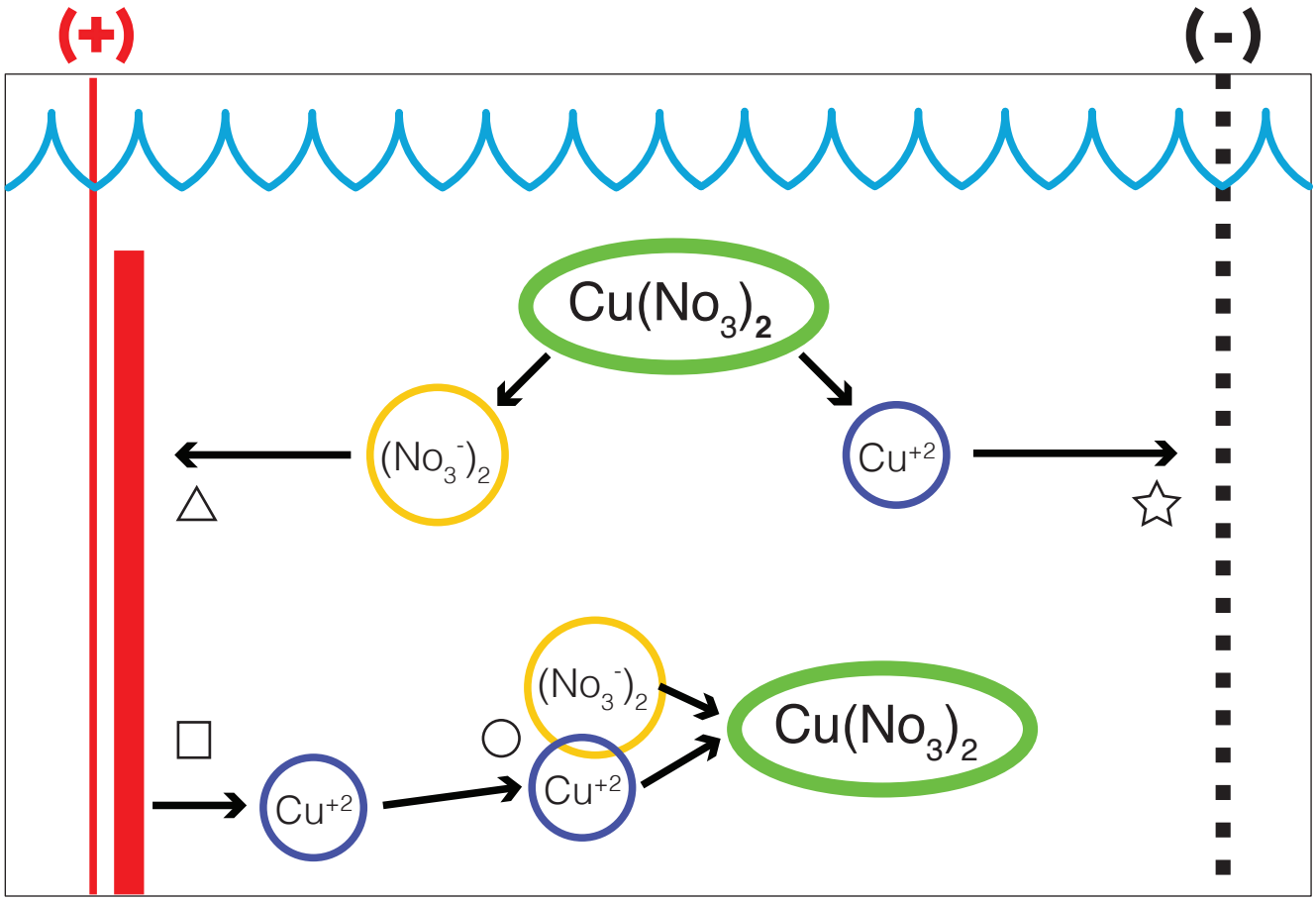

Copper plate to be etched

Cathode plate or grid

The process begins with Copper Nitrate $Cu(No_3)_2$ in solution with H_2O

When a current runs through each lead:

The charge at each electrode separates the $Cu(No_3)_2$ into oppositely charged ions

$(No_3^-)_2$ Negatively charged nitrate ion	Cu^{+2} Positively charged copper ion

☆ Cu^{+2} is attracted to the negatively charged cathode grid, plating the surface

△ $(No_3^-)_2$ is attracted to the positively charged exposed areas of the copper plate

□ $(No_3^-)_2$ oxidizes the exposed copper, realeasing Cu^{+2} from the plate and into the solution

○ Cu^{+2} bonds with the free $(No_3^-)_2$ creating new $Cu(No_3)_2$

The process repeats as long as a current is present.