Let’s focus on the LHS of our target equation:

* Outer tensor product:  
   defined by
* Matricization:  
  So we have ’s matricization w.r.t :

Is defined such that:  
for every and

Where:

This gives us a (complicated) but explicit expression for every coordinate of the matrix in the LHS of our target equation.

Now let’s move on to RHS of our equation:

* Matricization:  
  We have an order tensor , so its matricization w.r.t is:

for every .  
Where:

And an order tensor , so its matricization w.r.t is:  
Is defined such that:  
for every , .  
Where:

* Kronecker Product:  
  We have two matrices:

The kronecker product of these two matrices is defined such that it generates a matrix  
   
  
Defined by

Where  
   
and:

This gives us a (complicated) but explicit expression for every coordinate of the matrix in the RHS of our target equation.