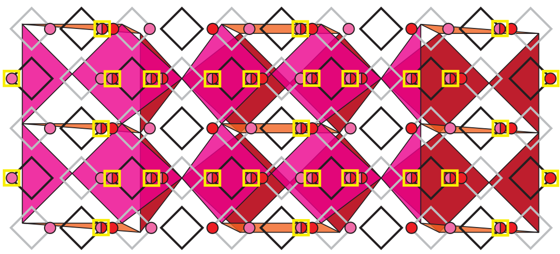
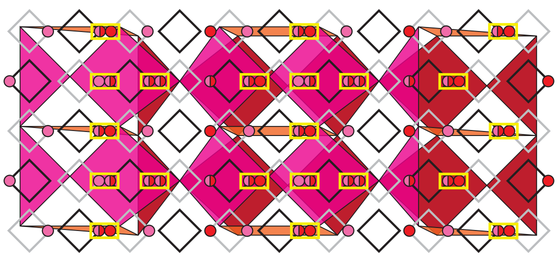
# Supplementary Material

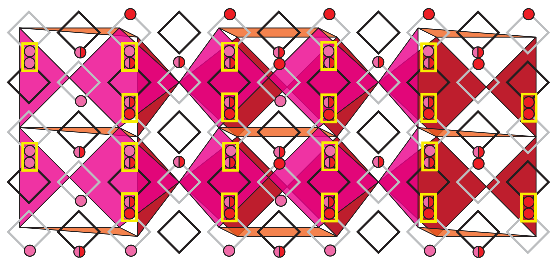
## 1 Red Code Schedule



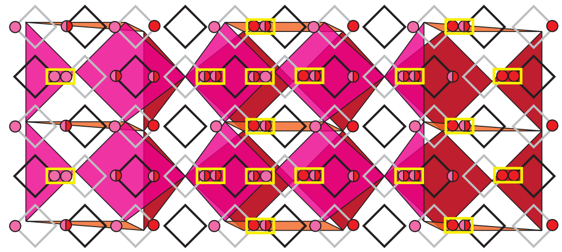
**Step 1:** Initialise all ancilla qubits in $|0\rangle$ (yellow boxes).



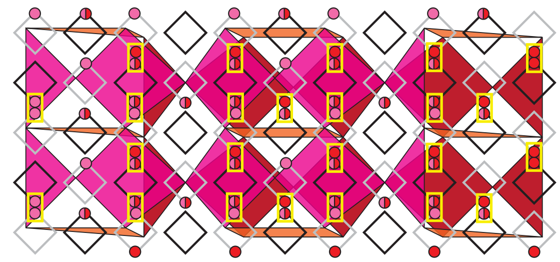
**Step 2:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



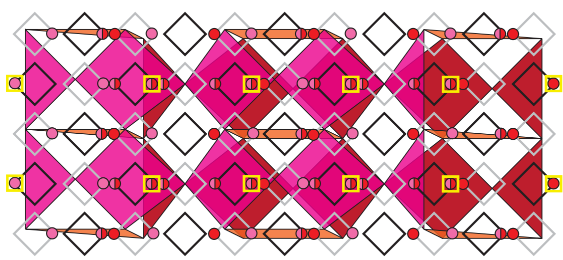
**Step 3:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



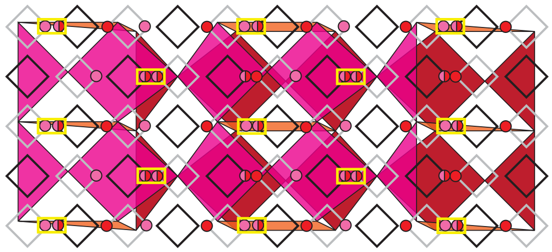
**Step 4:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



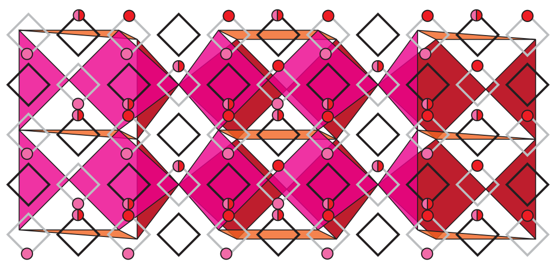
**Step 5:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



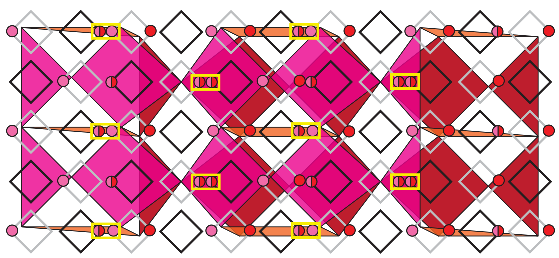
**Step 6:** Ancilla qubits which have completed all their interactions are measured out in $Z$ (yellow boxes).



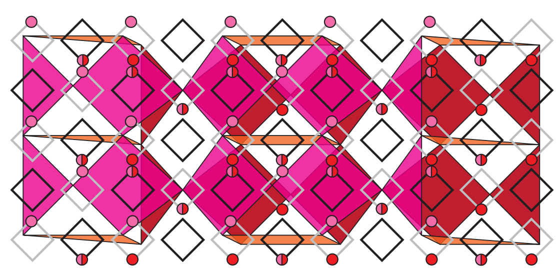
**Step 7:** Unmeasured ancilla qubits are advanced by half a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



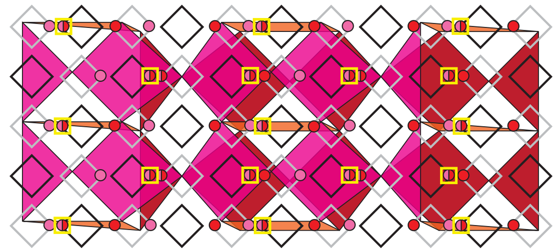
**Step 8:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



**Step 9:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).

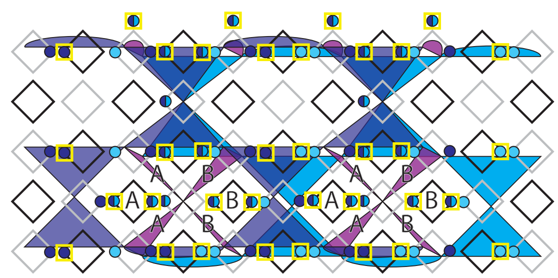


**Step 10:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).

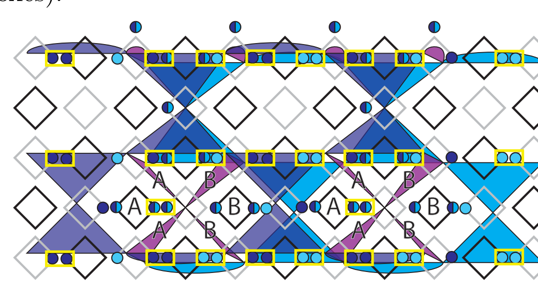


**Step 11:** Remaining ancilla qubits are measured out in $|Z\rangle$.

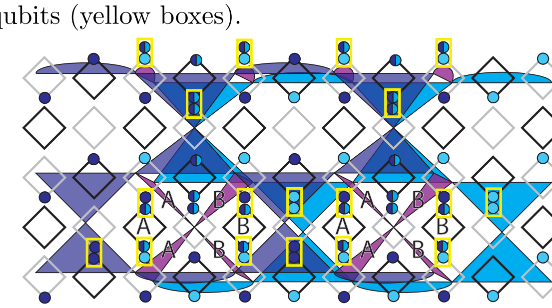
## 2 Blue Code Schedule



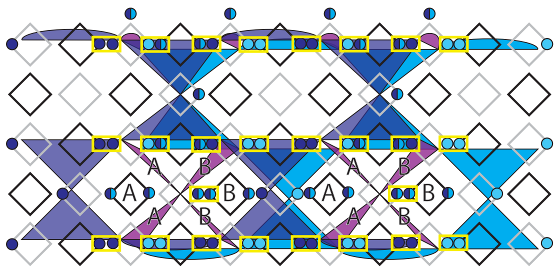
**Step 1:** Initialise all ancilla qubits in $|0\rangle$ (yellow boxes).



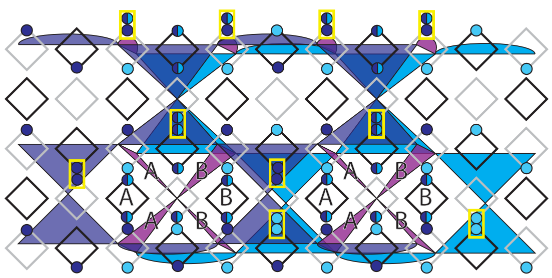
**Step 2:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



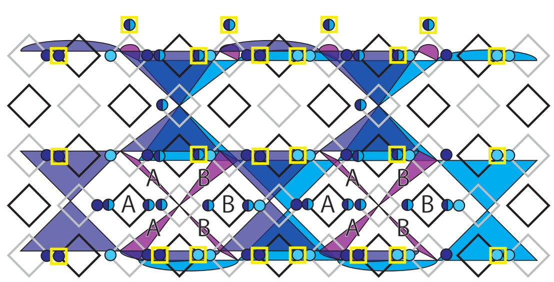
**Step 3:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



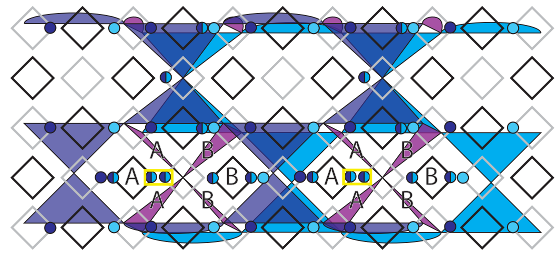

**Step 4:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



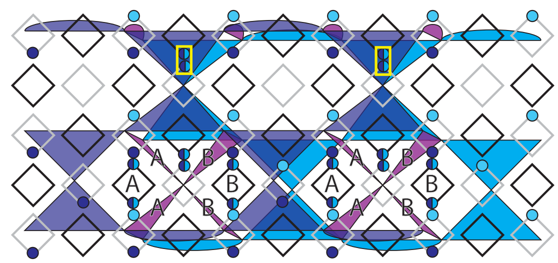

**Step 5:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



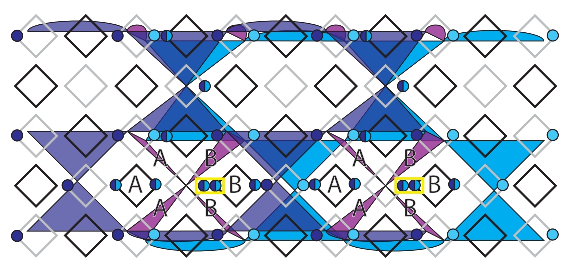

**Step 6:** Ancilla qubits which have completed all their interactions are measured out in $Z$ (yellow boxes).



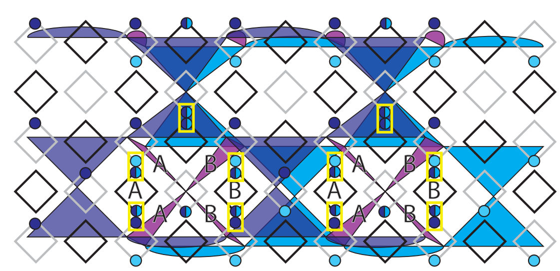

**Step 7:** Unmeasured ancilla qubits are advanced by half a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).




**Step 8:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).

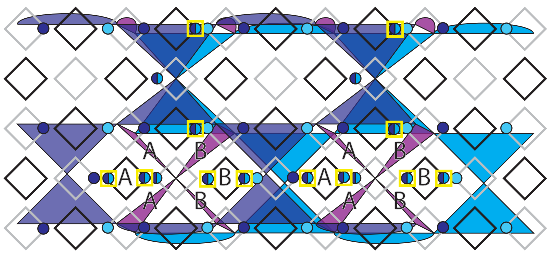



**Step 9:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).



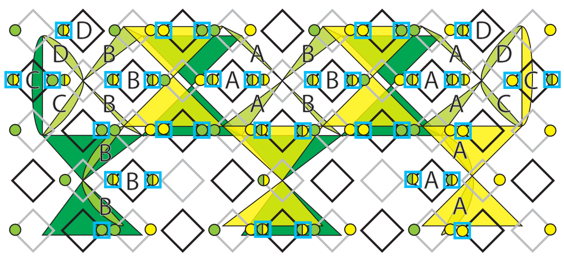

**Step 10:** All qubits move clockwise by one quater of

a cycle. CNOTs are performed from data to ancilla qubits (yellow boxes).

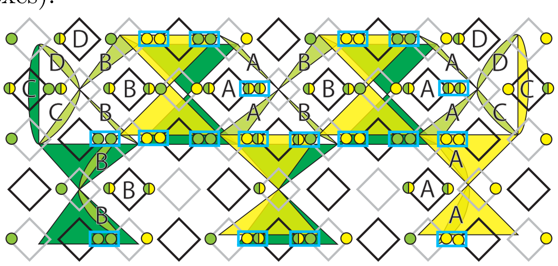


**Step 11:** Remaining ancilla qubits are measured out in $|Z\rangle$.

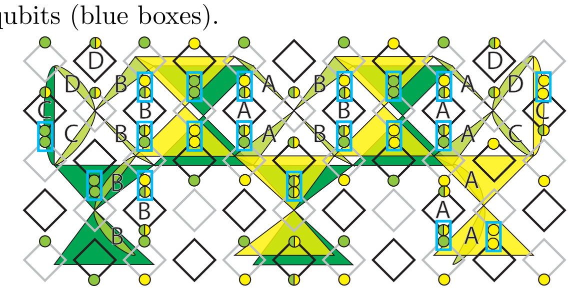
# 3 Green Code Schedule



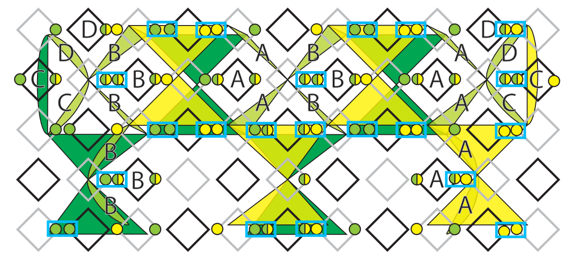
**Step 1:** Initialise all ancilla qubits in $|0\rangle$ (blue boxes).



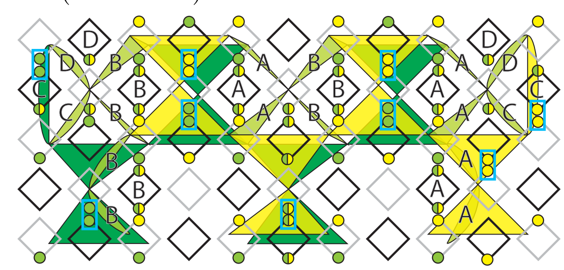
**Step 2:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



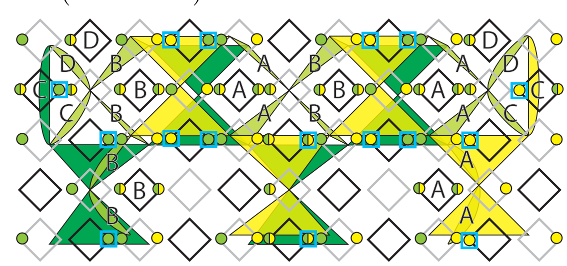
**Step 3:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



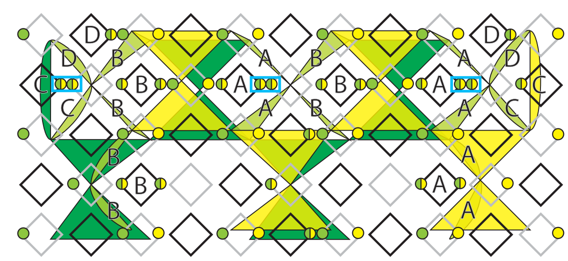
**Step 4:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



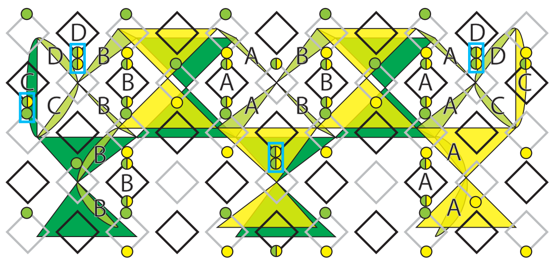
**Step 5:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



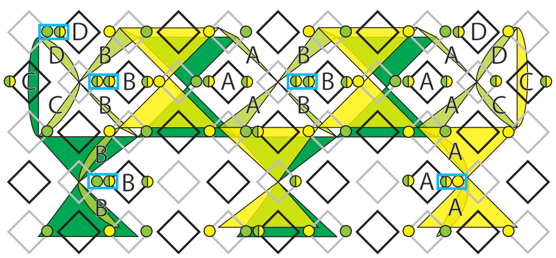
**Step 6:** Ancilla qubits which have completed all their interactions are measured out in $Z$ (blue boxes).



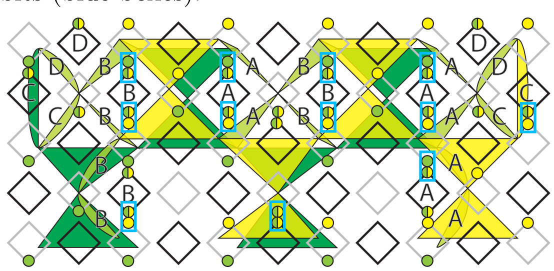
**Step 7:** Unmeasured ancilla qubits are advanced by half a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



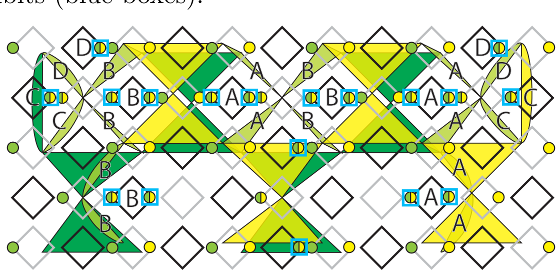
**Step 8:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



**Step 9:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



**Step 10:** All qubits move clockwise by one quater of a cycle. CNOTs are performed from data to ancilla qubits (blue boxes).



**Step 11:** Remaining ancilla qubits are measured out in $|Z\rangle$.