Example of specifying indistinguishability relation and valuation

Suppose we are specifying two agents and a carriage example (just the epistemic part, not the transitions). We have three propositions, pos0, pos1, pos2.
The model M_{2rc} is as follows:

- $St_{2rc} = \{q_0, q_1, q_2\}$
- agent 1's indistinguishability relation $\sim_1$ is the set $\{(q_0, q_0), (q_1, q_1), (q_2, q_2), (q_0, q_2), (q_2, q_0)\}$ (a simpler way is to say there are two equivalence classes of $\sim_1$, $\{q_0, q_2\}$ and $\{q_1\}$). Similarly for agent 2 ($\sim_2$ classes are $\{q_0, q_1\}$ and $\{q_2\}$.
- a valuation of propositions is: pos0 is assigned $\{q_0\}$ etc. (notation: pos0 $\mapsto \{q_0\}$). Note that this model is a bit strange because each proposition is assigned exactly one state. Normally you'd get a set of states, e.g. blue $\mapsto \{q_0, q_2\}$.