

Table S1

Equivalence of deploying an *other-repeat* strategy (also Cournot's Second Best Response) and an unnatural *self-outcome* strategy

| TRIAL n | | STRATEGY | TRIAL n+1 | TRIAL n | STRATEGY | TRIAL n+1 |
|--------------|-------------|---------------------------|-----------------|----------------|----------------------------|-----------------|
| Other | Self | <i>Other-cycle</i> | Self | Outcome | <i>Self-outcome</i> | Self |
| Rock | Paper | REPEAT | Rock | Win | WIN-DOWNGRADE | Rock |
| Rock | Scissors | REPEAT | Rock | Lose | LOSE-UPGRADE | Rock |
| Rock | Rock | REPEAT | Rock | Draw | DRAW-REPEAT | Rock |
| Paper | Scissors | REPEAT | Paper | Win | WIN-DOWNGRADE | Paper |
| Paper | Rock | REPEAT | Paper | Lose | LOSE-UPGRADE | Paper |
| Paper | Paper | REPEAT | Paper | Draw | DRAW-REPEAT | Paper |
| Scissors | Rock | REPEAT | Scissors | Win | WIN-DOWNGRADE | Scissors |
| Scissors | Paper | REPEAT | Scissors | Lose | LOSE-UPGRADE | Scissors |
| Scissors | Scissors | REPEAT | Scissors | Draw | DRAW-REPEAT | Scissors |

Table S2

Equivalence of deploying an *other-downgrade* strategy (also Cournot's Worse Response) and an unnatural *self-outcome* strategy

| TRIAL n | | STRATEGY | TRIAL n+1 | TRIAL n | STRATEGY | TRIAL n+1 |
|--------------|-------------|---------------------------|--------------------|----------------|----------------------------|-----------------|
| Other | Self | <i>Other-cycle</i> | <i>Self</i> | Outcome | <i>Self-outcome</i> | Self |
| Rock | Paper | DOWNGRADE | Scissors | Win | WIN-UPGRADE | Scissors |
| Rock | Scissors | DOWNGRADE | Scissors | Lose | LOSE-REPEAT | Scissors |
| Rock | Rock | DOWNGRADE | Scissors | Draw | DRAW-DOWNGRADE | Scissors |
| Paper | Scissors | DOWNGRADE | Rock | Win | WIN-UPGRADE | Rock |
| Paper | Rock | DOWNGRADE | Rock | Lose | LOSE-REPEAT | Rock |
| Paper | Paper | DOWNGRADE | Rock | Draw | DRAW-DOWNGRADE | Rock |
| Scissors | Rock | DOWNGRADE | Paper | Win | WIN-UPGRADE | Paper |
| Scissors | Paper | DOWNGRADE | Paper | Lose | LOSE-REPEAT | Paper |
| Scissors | Scissors | DOWNGRADE | Paper | Draw | DRAW-DOWNGRADE | Paper |