

**(7) A 3-cycle non-contextuality polytope****10 points**

Recall the first exercise sheet on contextuality. Back then we considered three holes out of which we could only measure two at a time. We then considered the correlators  $S_i S_{i+1}$  (Here addition is modulo 3,  $i + 1 \bmod 3$ ) and  $S_i \in \{+1, -1\}$ . Using the tools discussed in Week 5 in "All the Bell-inequalities" derive non-contextual polytope, where your variables are "two-body" correlators  $S_i S_{i+1}$ .