Seventh Homework of Concurrent Systems

Exercise 1 Provide a weak bisimulation relation to show that

$$(a.b \mid \bar{a}.c)\backslash_a \quad \approx \quad (b \mid c)$$

Exercise 4 Are $a.b+\tau.(a.b+c)$ and $a.b+\tau.c$ weakly bisimilar? If yes, provide a weak bisimulation containing them; if not, discuss why such a bisimulation cannot exist.

Exercise 2 Let P be a finite process (i.e., defined without process invocations) and let $P \xrightarrow{\alpha} P'$. By induction on the length of the inference for this transition, show that the set of actions occurring in P' is contained in the set of actions occurring in P.

Exercise 3 Prove that $\approx$ is transitive.