T-79.179 **Spring 2005**
Parallel and Distributed Digital Systems
Exercise 4
7-13.3 2005

5.1.1 Give branching bisimulation relations to prove that the process terms a, $a\tau$, and τa are braching bisimilar.

5.1.2 Give a branching bisimulation relation to prove that the process terms $\tau(\tau(a+b)+b)+a$ and $a+b$ are braching bisimilar.

5.4.1 Let $\gamma(a,b)=c$. Derive the transition

$$\tau_{\{c\}}(\partial_{\{a,b\}}((aa)\|(bb))) \xrightarrow{\tau} \tau_{\{c\}}(\partial_{\{a,b\}}(a\|b))$$

from the transition rules of ACP_τ.

5.4.2 Show that the process term

$$\tau_{\{a\}}(\langle X \mid X = aX\rangle)$$

and deadlock δ are branching bisimilar.