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a) $Pc \rightarrow Qc \vdash Pc \rightarrow (Tc \rightarrow Qc)$

1	$Pc \rightarrow Qc, Pc, Tc$	$Pc \rightarrow Qc$	$[E1]$
2	$Pc \rightarrow Qc, Pc, Tc$	Pc	$[E1]$
3	$Pc \rightarrow Qc, Pc, Tc$	Qc	$[E \rightarrow]1, 2$
4	$Pc \rightarrow Qc, Pc$	$Tc \rightarrow Qc$	$[I \rightarrow]3$
5	$Pc \rightarrow Qc$	$Pc \rightarrow (Tc \rightarrow Qc)$	$[I \rightarrow]4$

Very good!

b) $Pc \rightarrow (Qc \rightarrow Tc) \vdash (Pc \wedge Qc) \rightarrow Tc$

1	$Pc \rightarrow (Qc \rightarrow Tc), (Pc \wedge Qc)$	$(Pc \wedge Qc)$	$[E1]$
2	$Pc \rightarrow (Qc \rightarrow Tc), (Pc \wedge Qc)$	$Pc \rightarrow (Qc \rightarrow Tc)$	$[E1]$
3	$Pc \rightarrow (Qc \rightarrow Tc), (Pc \wedge Qc)$	Pc	$[E\wedge]1$
4	$Pc \rightarrow (Qc \rightarrow Tc), (Pc \wedge Qc)$	$Qc \rightarrow Tc$	$[E \rightarrow]2, 3$
5	$Pc \rightarrow (Qc \rightarrow Tc), (Pc \wedge Qc)$	Qc	$[E\wedge]1$
6	$Pc \rightarrow (Qc \rightarrow Tc), (Pc \wedge Qc)$	Tc	$[E \rightarrow]4, 5$
7	$Pc \rightarrow (Qc \rightarrow Tc)$	$(Pc \wedge Qc) \rightarrow Tc$	$[I \rightarrow]6$

Excellent!