



























1	$\vdash \top$	A1	✓	
2	$\vdash \neg p \rightarrow \neg(\neg p \rightarrow p)$	A1	✓	
3	$\vdash [\neg p] p \leftrightarrow (\neg p \rightarrow p)$	A11	✓	
4	$\vdash ([\neg p] p \leftrightarrow (\neg p \rightarrow p)) \rightarrow ((\neg p \rightarrow p) \leftrightarrow [\neg p] p)$	A1	✓	
5	$\vdash (\neg p \rightarrow p) \leftrightarrow [\neg p] p$	R1	✓	3, 4
6	$\vdash \neg(\neg p \rightarrow p) \leftrightarrow \neg[\neg p] p$	SUB	✓	5
7	$\vdash \neg(\neg p \rightarrow p) \rightarrow \neg[\neg p] p$	EE	✓	6
8	$\vdash \neg p \rightarrow \neg[\neg p] p$	HS	✓	2, 7
9	$\vdash [\neg p] \neg p \leftrightarrow (\neg p \rightarrow \neg[\neg p] p)$	A12	✓	
10	$\vdash ([\neg p] \neg p \leftrightarrow (\neg p \rightarrow \neg[\neg p] p)) \rightarrow ((\neg p \rightarrow \neg[\neg p] p) \leftrightarrow$	A1	✓	
				
11	$\vdash (\neg p \rightarrow \neg[\neg p] p) \leftrightarrow [\neg p] \neg p$	R1	✓	9, 10
12	$\vdash (\neg p \rightarrow \neg[\neg p] p) \rightarrow [\neg p] \neg p$	EE	✓	11
13	$\vdash [\neg p] \neg p$	R1	✓	8, 12
14	$\vdash [\neg p] \neg p \rightarrow (\top \rightarrow [\neg p] \neg p)$	A1	✓	
15	$\vdash \top \rightarrow [\neg p] \neg p$	R1	✓	13, 14
16	$\vdash \top$	A1	✓	

17	$\vdash K2 \top$	R2  	16
18	$\vdash \top$	A1 	
19	$\vdash K1 \top$	R2  	18
20	$\vdash K1 \top \rightarrow (K2 \top \rightarrow (K1 \top \wedge K2 \top))$	A1 	
21	$\vdash K2 \top \rightarrow (K1 \top \wedge K2 \top)$	R1  	19, 20
22	$\vdash K1 \top \wedge K2 \top$	R1  	17, 21
23	$\vdash (K1 \top \wedge K2 \top) \rightarrow ((\top \wedge \neg p) \rightarrow (K1 \top \wedge K2 \top))$	A1 	
24	$\vdash (\top \wedge \neg p) \rightarrow (K1 \top \wedge K2 \top)$	R1  	22, 23
25	$\vdash ET \leftrightarrow (K1 \top \wedge K2 \top)$	A6  	
26	$\vdash (ET \leftrightarrow (K1 \top \wedge K2 \top)) \rightarrow ((K1 \top \wedge K2 \top) \leftrightarrow ET)$	A1 	
27	$\vdash (K1 \top \wedge K2 \top) \leftrightarrow ET$	R1  	25, 26
28	$\vdash (K1 \top \wedge K2 \top) \rightarrow ET$	EE  	27
29	$\vdash (\top \wedge \neg p) \rightarrow ET$	HS  	24, 28
30	$\vdash \top \rightarrow [\neg p] C\neg p$	R5  	15, 29
31	$\vdash [\neg p] C\neg p$	R1  	1, 30

System PAC  Agents 2

Goal  
[!p]C!p



