Case 1: Separation holds but not sufficiency

* these are made up numbers

A	C	Y	P(A)	P(C)	P(Y)	P(C|A)	P(A|C)	P(A|C,Y)	P(C|A,Y)	
0	0	0	0.3	0.4	0.4	0.1	0.075	0.075	0.06	] X
0	0	1	0.3	0.4	0.6	0.1	0.075	0.075	0.09	
0	1	0	0.3	0.6	0.4	0.2	0.1	0.1	0.08	] X
0	1	1	0.3	0.6	0.6	0.2	0.1	0.1	0.12	
1	0	0	0.7	0.4	0.4	0.1	0.175	0.175	0.14	] X
1	0	1	0.7	0.4	0.6	0.1	0.175	0.175	0.21	
1	1	0	0.7	0.6	0.4	0.1	0.117	0.117	0.094	] X
1	1	1	0.7	0.6	0.6	0.1	0.117	0.117	0.14	

Highlighted with the same Colour means that A is Separated From Y given C, so Separation holds. However, sufficiency does not hold Since $P(C|A,Y) \neq P(C|A)$