(a1) 
$$H_{1,2}^1 H_{2,3}^1 H_{3,4}^1 H_{4,5}^1 H_{5,6}^1 H_{6,7}^1$$
  
 $R_1 - R_2 - R_3 - R_4 - R_5 - R_6 - R_7 - Q - Q - R_1$   
(a2)  $H_{1,2}^2 H_{2,3}^2 H_{3,4}^2 H_{3,5}^2 H_{3,5}^2 H_{5,6}^2 H_{6,7}^2$   
 $R_1 - R_2 - R_3 - R_4 - R_5 - R_6 - R_7 - Q - Q - R_1$   
(b1)  $H_{1,3}^1 H_{2,4}^1 H_{3,5}^1 H_{4,6}^1 H_{5,7}^1$   
 $R_1 - R_2 - R_3 - R_4 - R_5 - R_6 - R_7 - Q - Q - R_1$   
(c1)  $H_{1,4}^1 H_{2,5}^1 H_{3,6}^1 H_{4,7}^1$   
 $R_1 - R_2 - R_3 - R_4 - R_5 - R_6 - R_7 - Q - Q - R_1$   
(c2)  $H_{1,4}^2 H_{2,5}^2 H_{3,6}^2 H_{4,7}^2$   
 $R_1 - R_2 - R_3 - R_4 - R_5 - R_6 - R_7 - Q - Q - R_1$