

 $A_2XA_3 = A_4XA_3B_0A_5$ $X \neq \varepsilon$ $A_{2} := A_{0}^{i_{1}+i_{3}+1}$ $A_{3} := A_{0}^{i_{2}}$ $A_{4} := A_{0}^{i_{1}}$

 $A_5 := A_0^{i_3}$

 $A_2 = A_3 B_0 A_4$

No constraints $A_2 := A_0^{i_1+i_2+1}$ $A_3 := A_0^{i_1}$ $A_4 := A_0^{i_2}$

 $YA_0X = XB_0Y$

 $X \neq B_0 X_S$

 $X \neq X_P A_0$

No conditions

 $i_3 := i_2$

$$\begin{array}{c}
A_2X = A_4XA_3B_0 \\
X \neq \varepsilon \\
A_2 := A_0^{i_1+i_2+1} \\
A_3 := A_0^{i_2} \\
A_4 := A_0^{i_1}
\end{array}$$

 $X \neq \varepsilon$