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\langle \{\}, \ \{X,Y\}, \ id, \ \{[a]\langle [b]f_n^C\langle X, \bar{b}\rangle, Y\rangle \approx_? [b]\langle [a]f_n^C\langle \overline{a}, X\rangle, Y\rangle \}\rangle
                                                                                                                                                    (\approx_? [\mathbf{ab}])
                                                                            \langle \{\},\ \{X,Y\},\ id,\ \{\langle [b]f_n^C\langle X,\overline{b}\rangle,Y\rangle\approx_? \langle [b]f_n^C\langle\overline{b},(a\,b).X\rangle,(a\,b).Y\rangle,\ a\,\#_?\,\langle [a]f_n^C\langle\overline{a},X\rangle,Y\rangle\}\rangle
                                                                                                                                                   (\approx_? \mathbf{pair})
                                                                             \langle \{\}, \{X,Y\}, id, \{[b]f_n^C\langle X, \overline{b}\rangle \approx_? [b]f_n^C\langle \overline{b}, (ab).X\rangle, Y \approx_? (ab).Y, a\#_? \langle [a]f_n^C\langle \overline{a}, X\rangle, Y\rangle \}\rangle
                                                                                                                                                    (\approx_? [aa])
                                                                                  \langle \{\},\ \{X,Y\},\ id,\ \{f_n^C\langle X,\bar{b}\rangle\approx_? f_n^C\langle \bar{b},(a\,b).X\rangle,\ Y\approx_? (a\,b).Y,\ a\,\#_?\,\langle [a]f_n^C\langle \bar{a},X\rangle,Y\rangle\}\rangle
                                                                                                             (\approx_? \mathbf{C})
\langle \{\},\ \{X,Y\},\ id,\ \{X\approx_? \overline{b},\ \overline{b}\approx_? (a\,b).X,\ Y\approx_? (a\,b).Y,\ a\,\#_?\,\langle [a]f_n^C\langle \overline{a},X\rangle,Y\rangle \}\rangle
                                                                                                                                                                          \{\{\}, \{X,Y\}, id, \{X \approx_? (ab).X, \overline{b} \approx_? \overline{b}, Y \approx_? (ab).Y, a\#_? \langle [a]f_n^C \langle \overline{a}, X \rangle, Y \rangle \} \}
                                                                                                                                                                                                                                              (\approx_? \mathbf{inv})
                                                                                                                                                                                \langle \{\}, \ \{X,Y\}, \ id, \ \{\overline{b} \approx_? \overline{b}, \ Y \approx_? (a \, b).Y, \ a \, \#_? \, \langle [a] f_n^C \langle \overline{a}, X \rangle, Y \rangle, \ (a \, b).X \approx_? X \} \rangle
                                                                              (\perp)
                                                                                                                                                                                                                                              (\approx_? \mathbf{refl})
                                                                                                                                                                                        \langle \{\}, \{X,Y\}, id, \{Y \approx_? (a b).Y, a \#_? \langle [a]f_n^C \langle \overline{a}, X \rangle, Y \rangle, (a b).X \approx_? X \} \rangle
                                                                                                                                                                                                                                              (\approx_? inv)
                                                                                                                                                                                        \langle \{\},\ \{X,Y\},\ id,\ \{a\,\#_?\,\langle [a]f_n^C\langle \overline{a},X\rangle,Y\rangle,\ (a\,b).X\approx_? X,\ (a\,b).Y\approx_? Y\}\rangle
                                                                                                                                                                                                                                           (\#_? \mathbf{pair})
                                                                                                                                                                                     \{\{\}, \{X,Y\}, id, \{a\#_?[a]f_n^C\langle \overline{a}, X\rangle, a\#_?Y, (ab).X \approx_? X, (ab).Y \approx_? Y\}\}
                                                                                                                                                                                                                                             (\#_? \mathbf{a}[\mathbf{a}])
                                                                                                                                                                                                        \{\{\}, \{X,Y\}, id, \{a \#_? Y, (a b).X \approx_? X, (a b).Y \approx_? Y\}\}
                                                                                                                                                                                                                                              (#? var)
                                                                                                                                                                                                           (\{a\#Y\}, \{X,Y\}, id, \{(ab).X \approx_? X, (ab).Y \approx_? Y\})
                                                                                                                                                                                                                                                      (\mu_{\mathbf{fp}})
                                                                                                                                                                                                            \langle \{a\#X, \ b\#X, \ a\#Y\}, \ \{X,Y\}, \ id, \ \{(a\,b).Y \approx_? Y\} \rangle
                                                                                                                                                                                                                                                      (\mu_{\mathbf{fp}})
                                                                                                                                                                                                                    \langle \{b\#Y, a\#X, b\#X, a\#Y\}, \{X,Y\}, id, \{\} \rangle
                                                                                                                                                                                                                                                                (\top)
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