Fix A as $\{a, b, c\}$

$$\begin{aligned}\mathcal{L}_A = \{&\epsilon, |a|, |b|, |c|, |a, b|, |b, c|, |a, c|, |a, b, c|, |a|b|, |a|c|, |b|a|, |b|c|,\\ &|c|a|, |c|b|, |a|b, c|, |b|a, c|, |c|a, b|, |a, b|c|, |a, c|b|, |b, c|a|,\\ &|a|b|c|, |a|c|b|, |b|a|c|, |b|c|a|, |c|b|a|, |c|a|b|\}\end{aligned}$$

Let L be $\{|a|c|\}$, and L' be $\{|b|c|\}$
Thus, $gap(L, L') = \{|a, b|, |a|b|, |a|c|\}$

$[\![L]\!]_A = \{|a|c|, |a|b|c|, |b|a|c|, |b, a|c|, |a|b, c|, |a|c|b|\}$
$[\![L']\!]_A = \{|a, b|c|, |b|a, c|, |a|b|c|, |b|c|, |b|c|a|, |b|a|c|\}$

$$\begin{aligned}res_A(L, L') = \{&|b, a, c|, |b, c|a|, |c|a|b|, |b, a|c|, |a|b|, |a|b, c|, |c|b|a|, |a|b|c|,\\ &|b|a|c|, |a|c|b|, |c|b|, |a, c|b|, |a|c|, |b, a|, |c|b, a|, |b, c|\}\end{aligned}$$

$L\&L' = \{|a, b|c|, |a|b|c|, |b|a|c|\}$
$(L\&L')_\downarrow = \{\epsilon, |a|, |b|, |c|, |a, b|, |a|b|, |b|c|, |b|a|, |a|c|, |a, b|c|, |a|b|c|, |b|a|c|\}$

$$\begin{aligned}[\![(L\&L')_\downarrow]\!]_A = \{&\epsilon, |a|, |b|, |c|, |a, b|, |b, c|, |a, c|, |a, b, c|, |a|b|, |a|c|, |b|a|, |b|c|,\\ &|c|a|, |c|b|, |a|b, c|, |b|a, c|, |c|a, b|, |a, b|c|, |a, c|b|, |b, c|a|,\\ &|a|b|c|, |a|c|b|, |b|a|c|, |b|c|a|, |c|b|a|, |c|a|b|\}\end{aligned}$$

$\therefore [\![(L\&L')_\downarrow]\!]_A = \mathcal{L}_A$
$\therefore [\![(L\&L')_\downarrow]\!]_A \cap res_A(L, L') = res_A(L, L')$

$$\begin{aligned}\text{but } [\![gap(L, L')]\!]_A &= \{|a, b, c|, |a, b|, |a|b|, |a|c|, |a, b|c|, |a, c|b|, |a|b, c|,\\ &\qquad |c|a, b|, |a|b|c|, |a|c|b|, |b|a|c|, |c|a|b|\}\\ &\neq res_A(L, L')\end{aligned}$$

$\therefore [\![gap(L, L')]\!]_A \neq [\![(L\&L')_\downarrow]\!]_A \cap res_A(L, L')$

However,
$(L\&L')_{\downarrow} \cap res_A(L, L') = \{|a, b|, |a|b|, |a|c|, |a, b|c|, |a|b|c|, |b|a|c|\}$

$$\begin{aligned}
[\![(L\&L')_{\downarrow} \cap res_A(L, L')]\!]_A = \{ & |a, b, c|, |a, b|, |a|b|, |a|c|, |a, b|c|, |a, c|b|, |a|b, c|, \\
& |c|a, b|, |a|b|c|, |a|c|b|, |b|a|c|, |c|a|b|\} \\
= \ & [\![gap(L, L')]\!]_A
\end{aligned}$$