two arrays

$v_1 = [a \; b] \quad v_2 = [a_1 \; b_1]$

if $a = a_1$ and $b = b_1$

then $v_1 = v_2$

$E_{C\sigma} = \emptyset$ then $C\sigma$ is true in $N_{C\sigma}$

(Condition 1.1) $x\sigma$ is reducible, $x \in \mathrm{var}(C)$
define σ' like σ, but $x \to x\sigma\downarrow_{N_{C\sigma}}$
$C\sigma' < C\sigma$ ind hyp: $C\sigma'$ has all premises true
$C\sigma$ true ✓ justification: don't superpose below variables
not by contradiction

(Condition 1.2) $C\sigma$ has max. neg. literal
assume $C\sigma$ not redundant and not 1.1
$C\sigma = C'\sigma \vee s\sigma \not\approx s'\sigma$ if $s\sigma \approx s'\sigma$ false in $N_{C\sigma}$ ⇝ $C\sigma$ true
if $s\sigma \approx s'\sigma$ is true in $N_{C\sigma}$ ⇝ $s\sigma\downarrow_{N_{C\sigma}} s'\sigma$, wlog. $s\sigma \geq s'\sigma$
$s\sigma = s'\sigma$ ⇝ EqRes ⇝ smaller clause

$s\sigma > s'\sigma$ $\rightsquigarrow$ apply Sup left

$D\sigma = D'\sigma \vee \underline{t\sigma \approx t'\sigma}$ $E_{D\sigma} = \{t\sigma \to t'\sigma\}$

$D\sigma < C\sigma$ strict max, $D\sigma$ is not reduced

$C\sigma = C'\sigma \vee s\sigma \approx s'\sigma$

no max negative, no red. σ, not redundant, ...

(1.3.2) $s\sigma \approx s'\sigma$ strict max and $s\sigma$ reducible $N_{C\sigma}$

$\rightsquigarrow$ $D = D'\sigma \vee t\sigma \approx t'\sigma$ $E_{D\sigma} = \{t\sigma \to t'\sigma\}$

SUPRIGHT $C\sigma$ and $D\sigma$

$\rightsquigarrow$ smaller