$termvar,\ x,\ y,\ z,\ f$
$typevar,\ X,\ Y,\ Z$
$index,\ i,\ j,\ k$

$t,\ c,\ v,\ s,\ n$	$::=$		
	$\vert$	x	
	$\vert$	triv	
	$\vert$	box	
	$\vert$	unbox	
	$\vert$	$\Lambda(X <: A).t$	
	$\vert$	$[A]t$	
	$\vert$	$\lambda(x : A).t$	
	$\vert$	$t_1\ t_2$	
	$\vert$	(t_1, t_2)	
	$\vert$	$\mathsf{fst}\ t$	
	$\vert$	$\mathsf{snd}\ t$	
	$\vert$	$\mathsf{succ}\ t$	
	$\vert$	0	
	$\vert$	$\mathsf{case}\ t\ \mathsf{of}\ t_3 \to t_1, t_4 \to t_2$	
	$\vert$	$[]$	
	$\vert$	$t :: t'$	
	$\vert$	(t)	S
K	$::=$		
	$\vert$	$\star$	
$A,\ B,\ C,\ D,\ E,\ S,\ U$	$::=$		
	$\vert$	$\top$	
	$\vert$	$\mathbb{S}$	
	$\vert$	X	
	$\vert$	$\mathsf{List}\ A$	
	$\vert$	$\forall(X <: A).B$	
	$\vert$	Unit	
	$\vert$	Nat	
	$\vert$	$?$	
	$\vert$	$A_1 \to A_2$	
	$\vert$	$A_1 \times A_2$	
	$\vert$	(A)	S
Γ	$::=$		
	$\vert$	$\cdot$	
	$\vert$	$\Gamma, X <: A$	
	$\vert$	$\Gamma, x : A$	

$\boxed{\Gamma \vdash A \sim B}$

$$\frac{}{\Gamma \vdash A \sim A}\ \text{C\_Refl}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S}}{\Gamma \vdash A \sim ?}\ \text{C\_BoxP}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S}}{\Gamma \vdash ? \sim A}\ \text{C\_UnboxP}$$

$$\frac{}{\Gamma \vdash A \sim ?} \quad \text{C\_Box}$$

$$\frac{}{\Gamma \vdash ? \sim A} \quad \text{C\_Unbox}$$

$$\frac{\Gamma \vdash A \sim B}{\Gamma \vdash (\mathsf{List}\ A) \sim (\mathsf{List}\ B)} \quad \text{C\_List}$$

$$\frac{\Gamma \vdash A_2 \sim A_1 \quad \Gamma \vdash B_1 \sim B_2}{\Gamma \vdash (A_1 \to B_1) \sim (A_2 \to B_2)} \quad \text{C\_Arrow}$$

$$\frac{\Gamma \vdash A_1 \sim A_2 \quad \Gamma \vdash B_1 \sim B_2}{\Gamma \vdash (A_1 \times B_1) \sim (A_2 \times B_2)} \quad \text{C\_Prod}$$

$$\frac{\Gamma, X <: A \vdash B_1 \sim B_2}{\Gamma \vdash (\forall (X <: A).B_1) \sim (\forall (X <: A).B_2)} \quad \text{C\_Forall}$$

$\boxed{A \sqsubseteq B}$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S}}{A \sqsubseteq ?} \quad \text{P\_UP}$$

$$\frac{}{A \sqsubseteq ?} \quad \text{P\_U}$$

$$\frac{}{A \sqsubseteq A} \quad \text{P\_refl}$$

$$\frac{A \sqsubseteq C \quad B \sqsubseteq D}{(A \to B) \sqsubseteq (C \to D)} \quad \text{P\_arrow}$$

$$\frac{A \sqsubseteq C \quad B \sqsubseteq D}{(A \times B) \sqsubseteq (C \times D)} \quad \text{P\_prod}$$

$$\frac{A \sqsubseteq B}{(\mathsf{List}\ A) \sqsubseteq (\mathsf{List}\ B)} \quad \text{P\_list}$$

$$\frac{B_1 \sqsubseteq B_2}{(\forall (X <: A).B_1) \sqsubseteq (\forall (X <: A).B_2)} \quad \text{P\_forall}$$

$\boxed{t \sqsubseteq t'}$

$$\frac{}{t \sqsubseteq t} \quad \text{TP\_refl}$$

$$\frac{t_1 \sqsubseteq t_2}{(\mathsf{succ}\ t_1) \sqsubseteq (\mathsf{succ}\ t_2)} \quad \text{TP\_succ}$$

$$\frac{t_1 \sqsubseteq t_4 \quad t_2 \sqsubseteq t_5 \quad t_3 \sqsubseteq t_6}{(\mathsf{case}\ t_1\ \mathsf{of}\ 0 \to t_2, (\mathsf{succ}\ x) \to t_3) \sqsubseteq (\mathsf{case}\ t_4\ \mathsf{of}\ 0 \to t_5, (\mathsf{succ}\ x) \to t_6)} \quad \text{TP\_Nate}$$

$$\frac{t_1 \sqsubseteq t_3 \quad t_2 \sqsubseteq t_4}{(t_1, t_2) \sqsubseteq (t_3, t_4)} \quad \text{TP\_pair}$$

$$\frac{t_1 \sqsubseteq t_2}{(\mathsf{fst}\ t_1) \sqsubseteq (\mathsf{fst}\ t_2)} \quad \text{TP\_fst}$$

$$\frac{t_1 \sqsubseteq t_2}{(\mathsf{snd}\ t_1) \sqsubseteq (\mathsf{snd}\ t_2)} \quad \text{TP\_snd}$$

$$\frac{t_1 \sqsubseteq t_3 \quad t_2 \sqsubseteq t_4}{(t_1 :: t_2) \sqsubseteq (t_3 :: t_4)} \quad \text{TP\_cons}$$

$$\frac{t_1 \sqsubseteq t_4 \quad t_2 \sqsubseteq t_5 \quad t_3 \sqsubseteq t_6}{(\mathsf{case}\ t_1\ \mathsf{of}\ [] \to t_2, (x :: y) \to t_3) \sqsubseteq (\mathsf{case}\ t_4\ \mathsf{of}\ 0 \to t_5, (x :: y) \to t_6)}\ \text{TP\_Liste}$$

$$\frac{t_1 \sqsubseteq t_2 \quad A_1 \sqsubseteq A_2}{(\lambda(x : A_1).t) \sqsubseteq (\lambda(x : A_2).t_2)}\ \text{TP\_Fun}$$

$$\frac{t_1 \sqsubseteq t_3 \quad t_2 \sqsubseteq t_4}{(t_1\ t_2) \sqsubseteq (t_3\ t_4)}\ \text{TP\_app}$$

$$\frac{t_1 \sqsubseteq t_2}{(\Lambda(X <: A).t_1) \sqsubseteq (\Lambda(X <: A).t_2)}\ \text{TP\_tfun}$$

$$\frac{t_1 \sqsubseteq t_2 \quad A \sqsubseteq B}{[A]t_1 \sqsubseteq [B]t_2}\ \text{TP\_tapp}$$

$\boxed{\Gamma \vdash A \lesssim B}$

$$\frac{}{\Gamma \vdash A \lesssim A}\ \text{S\_Refl}$$

$$\frac{X <: A' \in \Gamma \quad \Gamma \vdash A' \sim A}{\Gamma \vdash X \lesssim A}\ \text{S\_Var}$$

$$\frac{}{\Gamma \vdash A \lesssim \top}\ \text{S\_Top}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S}}{\Gamma \vdash A \lesssim ?}\ \text{S\_Box}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S}}{\Gamma \vdash ? \lesssim A}\ \text{S\_Unbox}$$

$$\frac{}{\Gamma \vdash \top \lesssim \mathbb{S}}\ \text{S\_TopSL}$$

$$\frac{}{\Gamma \vdash ? \lesssim \mathbb{S}}\ \text{S\_USL}$$

$$\frac{}{\Gamma \vdash \mathsf{Nat} \lesssim \mathbb{S}}\ \text{S\_NatSL}$$

$$\frac{}{\Gamma \vdash \mathsf{Unit} \lesssim \mathbb{S}}\ \text{S\_UnitSL}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S}}{\Gamma \vdash \mathsf{List}\ A \lesssim \mathbb{S}}\ \text{S\_ListSL}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S} \quad \Gamma \vdash B \lesssim \mathbb{S}}{\Gamma \vdash A \to B \lesssim \mathbb{S}}\ \text{S\_ArrowSL}$$

$$\frac{\Gamma \vdash A \lesssim \mathbb{S} \quad \Gamma \vdash B \lesssim \mathbb{S}}{\Gamma \vdash A \times B \lesssim \mathbb{S}}\ \text{S\_ProdSL}$$

$$\frac{\Gamma \vdash A \lesssim B}{\Gamma \vdash (\mathsf{List}\ A) \lesssim (\mathsf{List}\ B)}\ \text{S\_List}$$

$$\frac{\Gamma \vdash A_1 \lesssim A_2 \quad \Gamma \vdash B_1 \lesssim B_2}{\Gamma \vdash (A_1 \times B_1) \lesssim (A_2 \times B_2)}\ \text{S\_Prod}$$

$$\frac{\Gamma \vdash A_2 \lesssim A_1 \quad \Gamma \vdash B_1 \lesssim B_2}{\Gamma \vdash (A_1 \to B_1) \lesssim (A_2 \to B_2)}\ \text{S\_Arrow}$$

$$\frac{\Gamma, X <: A \vdash B_1 \lesssim B_2}{\Gamma \vdash (\forall(X <: A).B_1) \lesssim (\forall(X <: A).B_2)}\ \text{S\_Forall}$$

$\boxed{\Gamma \vdash_{\mathsf{SG}} t : A}$

$$\frac{x : A \in \Gamma}{\Gamma \vdash_{\mathsf{SG}} x : A} \quad \text{T\_VARP}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : A}{\Gamma \vdash_{\mathsf{SG}} \mathsf{box}_A\, t : ?} \quad \text{T\_BOX}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : A}{\Gamma \vdash_{\mathsf{SG}} \mathsf{unbox}_A\, t : A} \quad \text{T\_UNBOX}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : S}{\Gamma \vdash_{\mathsf{SG}} \mathsf{squash}_S\, t : ?} \quad \text{T\_SQUASH}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : ?}{\Gamma \vdash_{\mathsf{SG}} \mathsf{split}_S\, t : S} \quad \text{T\_SPLIT}$$

$$\frac{}{\Gamma \vdash_{\mathsf{SG}} \mathsf{triv} : \mathsf{Unit}} \quad \text{T\_UNITP}$$

$$\frac{}{\Gamma \vdash_{\mathsf{SG}} 0 : \mathsf{Nat}} \quad \text{T\_ZEROP}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : A \quad \mathsf{nat}(A) = \mathsf{Nat}}{\Gamma \vdash_{\mathsf{SG}} \mathsf{succ}\, t : \mathsf{Nat}} \quad \text{T\_SUCC}$$

$$\frac{\begin{array}{c}\Gamma \vdash_{\mathsf{SG}} t : C \quad \mathsf{nat}(C) = \mathsf{Nat} \quad \Gamma \vdash A_1 \sim A \\ \Gamma \vdash_{\mathsf{SG}} t_1 : A_1 \quad \Gamma, x : \mathsf{Nat} \vdash_{\mathsf{SG}} t_2 : A_2 \quad \Gamma \vdash A_2 \sim A\end{array}}{\Gamma \vdash_{\mathsf{SG}} \mathsf{case}\, t\, \mathsf{of}\, 0 \to t_1, (\mathsf{succ}\, x) \to t_2 : A} \quad \text{T\_NCASE}$$

$$\frac{}{\Gamma \vdash_{\mathsf{SG}} [] : \forall (X <: \top).\mathsf{List}\, X} \quad \text{T\_EMPTY}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t_1 : A_1 \quad \Gamma \vdash_{\mathsf{SG}} t_2 : A_2 \quad \mathsf{list}(A_2) = \mathsf{List}\, A_3 \quad \Gamma \vdash A_1 \sim A_3}{\Gamma \vdash_{\mathsf{SG}} t_1 :: t_2 : \mathsf{List}\, A_3} \quad \text{T\_CONS}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t_1 : A_1 \quad \Gamma \vdash_{\mathsf{SG}} t_2 : A_2}{\Gamma \vdash_{\mathsf{SG}} (t_1, t_2) : A_1 \times A_2} \quad \text{T\_PAIR}$$

$$\frac{\Gamma, x : A \vdash_{\mathsf{SG}} t : B}{\Gamma \vdash_{\mathsf{SG}} \lambda(x : A).t : A \to B} \quad \text{T\_LAM}$$

$$\frac{\Gamma, X <: A \vdash_{\mathsf{SG}} t : B}{\Gamma \vdash_{\mathsf{SG}} \Lambda(X <: A).t : \forall (X <: A).B} \quad \text{T\_LAM}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : \forall (X <: B).C \quad \Gamma \vdash A \lesssim B}{\Gamma \vdash_{\mathsf{SG}} [A]t : [A/X]C} \quad \text{T\_TYPEAPP}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : A \quad \Gamma \vdash A \lesssim B}{\Gamma \vdash_{\mathsf{SG}} t : B} \quad \text{T\_SUB}$$

$$\frac{\begin{array}{l}\Gamma \vdash_{\mathsf{SG}} t : C \quad \mathsf{list}(C) = \mathsf{List}\, A \\ \Gamma \vdash_{\mathsf{SG}} t_1 : B_1 \quad \Gamma, x : A, y : \mathsf{List}\, A \vdash_{\mathsf{SG}} t_2 : B_2 \quad \Gamma \vdash B_1 \sim B \quad \Gamma \vdash B_2 \sim B\end{array}}{\Gamma \vdash_{\mathsf{SG}} \mathsf{case}\, t\, \mathsf{of}\, [] \to t_1, (x :: y) \to t_2 : B} \quad \text{T\_LCASE}$$

$$\frac{\begin{array}{l}\Gamma \vdash_{\mathsf{SG}} t_1 : C \\ \Gamma \vdash_{\mathsf{SG}} t_2 : A_2 \quad \Gamma \vdash A_2 \sim A_1 \quad \mathsf{fun}(C) = A_1 \to B_1\end{array}}{\Gamma \vdash_{\mathsf{SG}} t_1\, t_2 : B_1} \quad \text{T\_APP}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : B \quad \mathsf{prod}(B) = A_1 \times A_2}{\Gamma \vdash_{\mathsf{SG}} \mathsf{fst}\, t : A_1} \quad \text{T\_FST}$$

$$\frac{\Gamma \vdash_{\mathsf{SG}} t : B \quad \mathsf{prod}(B) = A_1 \times A_2}{\Gamma \vdash_{\mathsf{SG}} \mathsf{snd}\, t : A_2} \quad \text{T\_SND}$$

$\boxed{\Gamma \vdash t_1 \Rightarrow t_2 : A}$

$$\frac{x : A \in \Gamma}{\Gamma \vdash x \Rightarrow x : A} \quad \text{CI\_VAR}$$

$$\frac{}{\Gamma \vdash 0 \Rightarrow 0 : \mathsf{Nat}} \quad \text{CI\_ZERO}$$

$$\frac{}{\Gamma \vdash \mathsf{triv} \Rightarrow \mathsf{triv} : \mathsf{Unit}} \quad \text{CI\_TRIV}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : ?}{\Gamma \vdash \mathsf{succ}\, t_1 \Rightarrow \mathsf{succ}\,(\mathsf{unbox}_{\mathsf{Nat}}\, t_2) : \mathsf{Nat}} \quad \text{CI\_SUCCU}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : \mathsf{Nat}}{\Gamma \vdash \mathsf{succ}\, t_1 \Rightarrow \mathsf{succ}\, t_2 : \mathsf{Nat}} \quad \text{CI\_SUCC}$$

$$\frac{\begin{array}{l}\Gamma \vdash A_1 \sim A \quad \Gamma \vdash A_2 \sim A \quad \mathsf{caster}(A_2, A) = c_2 \quad \mathsf{caster}(A_1, A) = c_1 \\ \Gamma \vdash t \Rightarrow t' : ? \quad \Gamma \vdash t_1 \Rightarrow t_1' : A_1 \quad \Gamma, x : \mathsf{Nat} \vdash t_2 \Rightarrow t_2' : A_2 \\ t'' = (\mathsf{unbox}_{\mathsf{Nat}}\, t') \quad t_1'' = (c_1\, t_1') \quad t_2'' = (c_2\, t_2')\end{array}}{\Gamma \vdash (\mathsf{case}\, t\, \mathsf{of}\, 0 \to t_1, (\mathsf{succ}\, x) \to t_2) \Rightarrow (\mathsf{case}\, t''\, \mathsf{of}\, 0 \to t_1'', (\mathsf{succ}\, x) \to t_2'') : A} \quad \text{CI\_NCASEU}$$

$$\frac{\begin{array}{l}\Gamma \vdash t \Rightarrow t' : \mathsf{Nat} \quad \Gamma \vdash A_1 \sim A \\ \Gamma \vdash t_1 \Rightarrow t_1' : A_1 \quad \Gamma, x : \mathsf{Nat} \vdash t_2 \Rightarrow t_2' : A_2 \quad \Gamma \vdash A_2 \sim A\end{array}}{\Gamma \vdash (\mathsf{case}\, t\, \mathsf{of}\, 0 \to t_1, (\mathsf{succ}\, x) \to t_2) \Rightarrow (\mathsf{case}\, t'\, \mathsf{of}\, 0 \to t_1', (\mathsf{succ}\, x) \to t_2') : A} \quad \text{CI\_NCASE}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_3 : A_1 \quad \Gamma \vdash t_2 \Rightarrow t_4 : A_2}{\Gamma \vdash (t_1, t_2) \Rightarrow (t_3, t_4) : A_1 \times A_2} \quad \text{CI\_PAIR}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : ?}{\Gamma \vdash \mathsf{fst}\, t_1 \Rightarrow \mathsf{fst}\,(\mathsf{unbox}_{(? \times ?)}\, t_2) : ?} \quad \text{CI\_FSTU}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : A_1 \times A_2}{\Gamma \vdash \mathsf{fst}\, t_1 \Rightarrow \mathsf{fst}\, t_2 : A_1} \quad \text{CI\_FST}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : ?}{\Gamma \vdash \mathsf{snd}\, t_1 \Rightarrow \mathsf{snd}\,(\mathsf{unbox}_{(? \times ?)}\, t_2) : ?} \quad \text{CI\_SNDU}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : A \times B}{\Gamma \vdash \mathsf{snd}\, t_1 \Rightarrow \mathsf{snd}\, t_2 : B} \quad \text{CI\_SND}$$

$$\frac{}{\Gamma \vdash [] \Rightarrow [] : \forall (X <: \top).\mathsf{List}\, X} \quad \text{CI\_EMPTY}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_1' : A_1 \quad \Gamma \vdash t_2 \Rightarrow t_2' : ?}{\Gamma \vdash (t_1 :: t_2) \Rightarrow ((\mathsf{box}_{A_1}\, t_1') :: (\mathsf{unbox}_{(\mathsf{List}\, ?)}\, t_2')) : \mathsf{List}\, ?} \quad \text{CI\_CONSU}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_1' : A_1 \quad \Gamma \vdash t_2 \Rightarrow t_2' : \mathsf{List}\, A_2 \quad \Gamma \vdash A_1 \lesssim A_2 \quad \mathsf{caster}(A_1, A_2) = c}{\Gamma \vdash (t_1 :: t_2) \Rightarrow ((c\, t_1') :: t_2') : \mathsf{List}\, A_2} \quad \text{CI\_CONS}$$

$$\frac{\begin{array}{l}\Gamma \vdash t \Rightarrow t' : ? \quad \mathsf{caster}(B_1, B) = c_1 \quad \mathsf{caster}(B_2, B) = c_2 \\ \Gamma \vdash t_1 \Rightarrow t_1' : B_1 \quad \Gamma, x : ?, y : \mathsf{List}\, ? \vdash t_2 \Rightarrow t_2' : B_2 \quad \Gamma \vdash B_1 \sim B \quad \Gamma \vdash B_2 \sim B\end{array}}{\Gamma \vdash (\mathsf{case}\, t\, \mathsf{of}\, [] \to t_1, (x :: y) \to t_2) \Rightarrow (\mathsf{case}\,(\mathsf{unbox}_{(\mathsf{List}\, ?)}\, t')\, \mathsf{of}\, [] \to (c_1\, t_1'), (x :: y) \to (c_2\, t_2')) : B} \quad \text{CI\_LCASEU}$$

$$\frac{\begin{array}{l}\Gamma \vdash t \Rightarrow t : \mathsf{List}\, A \quad \mathsf{caster}(B_1, B) = c_1 \quad \mathsf{caster}(B_2, B) = c_2 \\ \Gamma \vdash t_1 \Rightarrow t_1' : B_1 \quad \Gamma, x : A, y : \mathsf{List}\, A \vdash t_2 \Rightarrow t_2' : B_2 \quad \Gamma \vdash B_1 \sim B \quad \Gamma \vdash B_2 \sim B\end{array}}{\Gamma \vdash (\mathsf{case}\, t\, \mathsf{of}\, [] \to t_1, (x :: y) \to t_2) \Rightarrow (\mathsf{case}\, t'\, \mathsf{of}\, [] \to (c_1\, t_1'), (x :: y) \to (c_2\, t_2')) : B} \quad \text{CI\_LCASE}$$

$$\frac{\Gamma, x : A_1 \vdash t_1 \Rightarrow t_2 : A_2}{\Gamma \vdash \lambda(x : A_1).t_1 \Rightarrow \lambda(x : A_1).t_2 : A_1 \to A_2} \quad \textsc{ci\_lam}$$

$$\frac{\begin{array}{l}\Gamma \vdash t_1 \Rightarrow t_1' : ?\\ \Gamma \vdash t_2 \Rightarrow t_2' : A_2 \quad \mathsf{caster}(A_2, ?) = c\end{array}}{\Gamma \vdash t_1\, t_2 \Rightarrow (\mathsf{unbox}_{(? \to ?)}\, t_1')\,(c\, t_2') : ?} \quad \textsc{ci\_appU}$$

$$\frac{\begin{array}{l}\Gamma \vdash t_2 \Rightarrow t_2' : A_2\\ \Gamma \vdash t_1 \Rightarrow t_1' : A_1 \to B \quad \Gamma \vdash A_2 \sim A_1 \quad \mathsf{caster}(A_2, A_1) = c\end{array}}{\Gamma \vdash t_1\, t_2 \Rightarrow t_1'\,(c\, t_2') : B} \quad \textsc{ci\_app}$$

$$\frac{\Gamma, X <: A \vdash t_1 \Rightarrow t_2 : B}{\Gamma \vdash (\Lambda(X <: A).t_1) \Rightarrow (\Lambda(X <: A).t_2) : \forall(X <: A).B} \quad \textsc{ci\_Lam}$$

$$\frac{\Gamma \vdash t_1 \Rightarrow t_2 : \forall(X <: B).C \quad \Gamma \vdash A \sim A' \quad \Gamma \vdash A' <: B}{\Gamma \vdash ([A]t_1) \Rightarrow ([A']t_2) : [A'/X]C} \quad \textsc{ci\_typeApp}$$

```
Definition rules:        86 good    0 bad
Definition rule clauses: 164 good    0 bad
```