```
comp_preserves_inj  THM

⊢  Inj(A; B; g) ⇒ Inj(B; C; f) ⇒ Inj(A; C; f ∘ g)
| by Def of Inj(<A>; <B>; <f>)
|
1. B : Type
2. A : Type
3. C : Type
4. g : A→B
5. f : B→C
6. ∀a1,a2:A. g(a1) = g(a2) ⇒ a1 = a2
7. ∀b1,b2:B. f(b1) = f(b2) ⇒ b1 = b2
8. a1 : A
9. a2 : A
10. (f ∘ g)(a1) = (f ∘ g)(a2)
⊢  a1 = a2  by Reduce Hyp:10
|
10. f(g(a1)) = f(g(a2))
⊢  a1 = a2  by BackThru: Hyp:6
|
⊢  g(a1) = g(a2)  by BackThru: Hyp:7
END
```