```
bij_iff_1_1_corr  THM

⊢  (∃f:(A→B). Bij(A; B; f)) ⟺ (A ∼∼ B)
| by Unfold ‘one_one_corr‘ 0 THEN GenUnivCD
|
|\
| 1. A : Type
| 2. B : Type
| 3. ∃f:(A→B). Bij(A; B; f)
| ⊢  ∃f:(A→B), g:(B→A). InvFuns(A; B; f; g)
| | by Analyze 3 THEN Witness f
| |
| 3. f : A→B
| 4. Bij(A; B; f)
| ⊢  ∃g:(B→A). InvFuns(A; B; f; g)
|   by BackThru
|      Thm* ∀f:(A→B).
|           Bij(A; B; f) ⇒ (∃g:(B→A). InvFuns(A; B; f; g))
|      {bij_imp_exists_inv}
|
.\
. 1. A : Type
. 2. B : Type
. 3. ∃f:(A→B), g:(B→A). InvFuns(A; B; f; g)
. ⊢  ∃f:(A→B). Bij(A; B; f)
. | by Analyze 3 THEN Analyze 4 THEN Witness f
. |
. 3. f : A→B
. 4. g : B→A
. 5. InvFuns(A; B; f; g)
. ⊢  Bij(A; B; f)
.   by FwdThru
.      Thm* ∀f:(A→B), g:(B→A). InvFuns(A; B; f; g) ⇒ Bij(A; B; f)
.      {fun_with_inv_is_bij}
.      [5]
END
```