```
theory Keep_Drop
  imports Base
begin

definition Keep_Drop where
  "Keep_Drop Γ K D ≡ Γ ⟹A K * D"

lemma init:
  assumes
    "Γ ⟹A K * D"
  shows
    "Keep_Drop Γ K D"

lemma split:
  assumes
    "Γ₁ ⟹A K₁ * D₁"
    "Γ₂ ⟹A K₂ * D₂"
  shows
    "Γ₁ * Γ₂ ⟹A (K₁ * K₂) * (D₁ * D₂)"

lemma keep:
  assumes
    "Γ ⟹A Γ'"
  shows
    "Γ ⟹A Γ' * emp"

lemma drop: "Γ ⟹A emp * Γ"

method keep_drop_step methods keep_atom =
  rule split | (rule keep, keep_atom) | rule drop

method keep_drop methods keep_atom =
  rule init, ((keep_drop_step keep_atom)+; fail)

end
```