```
switchable_induced_tagged  THM

⊢  ∀E:EventStruct, P:((|E| List)→Prop), A:Type, f:(A→|E|)
|  , t:(A→Label). switchable(E)(P) ⇒ switchable(<A,f,t>(E))(P o f)
| by Auto
|
1. E : EventStruct
2. P : (|E| List)→Prop
3. A : Type
4. f : A→|E|
5. t : A→Label
6. switchable(E)(P)
⊢  switchable(<A,f,t>(E))(P o f)
| by Subst <A,f,t>(E) = induced_event_str(E;A;f) 0
|
|
|\
| .....equality .....
| 1. E : EventStruct
| 2. P : (|E| List)→Prop
| 3. A : Type
| 4. f : A→|E|
| 5. t : A→Label
| 6. switchable(E)(P)
| ⊢  <A,f,t>(E) = induced_event_str(E;A;f)  by EqTypeCD THENA Auto
| |
| |\
| | 1. E : EventStruct
| | 2. P : (|E| List)→Prop
| | 3. A : Type
| | 4. f : A→|E|
| | 5. t : A→Label
| | 6. switchable(E)(P)
| | ⊢  <A,f,t>(E) = induced_event_str(E;A;f)
| | | by ...
| | THEN Auto
| | |
| | 1. E : EventStruct
| | 2. P : (|E| List)→Prop
| | 3. A : Type
| | 4. f : A→|E|
| | 5. t : A→Label
| | 6. switchable(E)(P)
| | ⊢  <A,MS(E),msg(E) o f,loc(E) o f,is-send(E) o f,t,·>
| | |  =
| | |  <A,MS(E),msg(E) o f,loc(E) o f,is-send(E) o f,·>
| | | by Repeat (EqCD THEN Auto)
| | |
| | .....subterm .....
| | 1. E : EventStruct
| | 2. P : (|E| List)→Prop
| | 3. A : Type
| | 4. A→|E|
| | 5. t : A→Label
| | 6. switchable(E)(P)
```

```
| | ⊢  <t,·> = ·  by Unfold `top` 0 THEN Auto
| |
| .\
| . .....set predicate .....
| . 1. E : EventStruct
| . 2. P : (|E| List)→Prop
| . 3. A : Type
| . 4. f : A→|E|
| . 5. t : A→Label
| . 6. switchable(E)(P)
| . ⊢  |<A,f,t>(E)| = A  by Reduce 0 THEN Auto
|
|\
| 1. E : EventStruct
| 2. P : (|E| List)→Prop
| 3. A : Type
| 4. f : A→|E|
| 5. A→Label
| 6. switchable(E)(P)
| ⊢  switchable(induced_event_str(E;A;f))(P o f)
|   by BackThruLemma `switchable_induced` THEN Auto
|
.\
. .....wf .....
. 1. E : EventStruct
. 2. P : (|E| List)→Prop
. 3. A : Type
. 4. f : A→|E|
. 5. A→Label
. 6. switchable(E)(P)
. 7. z : {E:EventStruct| |E| = A }
. ⊢  switchable(z)(P o f) ∈ Prop  by D (-1) THEN Auto
END
```