```
decidable_functionality_wrt_iff  THM

⊢  (P ⟺ Q) ⇒ (Dec(P) ⟺ Dec(Q))  by Unfolds [‘guard‘;‘decidable‘] 0
|
|\
| 1. P : Prop
| 2. Q : Prop
| 3. P ⇒ Q
| 4. P ⇐ Q
| 5. P ∨ ¬P
| ⊢  Q ∨ ¬Q  by Analyze 5
| |
| |\
| | 5. P
| | ⊢  Q ∨ ¬Q  by DNth 1 0 THEN FwdThru 3 [5]
| |
| .\
| . 5. ¬P
| . ⊢  Q ∨ ¬Q  by DNth 2 0
| . |
| . ⊢  ¬Q  by Unfold ‘not‘ 0 THEN Unfold ‘not‘ 5
| . |
| . 5. P ⇒ False
| . 6. Q
| . ⊢  False  by FwdThru 4 [6]
| . |
| . 7. P
| . ⊢  False  by FwdThru 5 [7] THEN Trivial
|
.\
. 1. P : Prop
. 2. Q : Prop
. 3. P ⇒ Q
. 4. P ⇐ Q
. 5. Q ∨ ¬Q
. ⊢  P ∨ ¬P  by Analyze 5
. |
. |\
. | 5. Q
. | ⊢  P ∨ ¬P  by DNth 1 0 THEN FwdThru 4 [5] THEN Trivial
. |
. .\
. . 5. ¬Q
. . ⊢  P ∨ ¬P  by DNth 2 0
. . |
. . ⊢  ¬P  by Unfold ‘not‘ 0 THEN Unfold ‘not‘ 5
. . |
. . 5. Q ⇒ False
. . 6. P
. . ⊢  False  by FwdThru 3 [6]
. . |
. . 7. Q
. . ⊢  False  by FwdThru 5 [7] THEN Trivial
END
```