```
formula_valid_iff_sequent_valid  THM

⊢  ∀F:Formula. |= F ⟺ |= <nil,[F]>   by Repeat (Analyze 0)
|
|\
| 1. F : Formula
| 2. |= F
| 3. a : Full(<nil,[F]>)
| ⊢  a |= <nil,[F]>  by Analyze -1
| |
| 3. a : Assignment
| 4. a |= <nil,[F]> ∨ a |≠ <nil,[F]>
| ⊢   by Analyze -1
| |
| |\
| | 4. a |= <nil,[F]>
| | ⊢   by Trivial
| |
| .\
| . 4. a |≠ <nil,[F]>
| . ⊢   by Analyze -1 THEN OnHyps [-1;-2] AbReduce
| . |
| . 4. True
| . 5. a |≠ F & True
| . ⊢   by Analyze -1
| . |
| . 5. a |≠ F
| . 6. True
| . ⊢   by UnfoldTopAb 2
| . |
| . 2. ∀a:Full(F). a |= F
| . 3. a : Assignment
| . 4. True
| . 5. a |≠ F
| . 6. True
| . ⊢   by Witness2 a
| . |
| . |\
| . | .....wf .....
| . | 2. a : Assignment
| . | 3. True
| . | 4. a |≠ F
| . | 5. True
| . | ⊢  a ∈ Full(F)  by AbSetMemEqTypeCD
| . | |
| . | |\
| . | | ⊢  a ∈ Assignment  by Auto
| . | |
| . | .\
| . | . .....set predicate .....
| . | . ⊢  a |= F  ∨ a |≠ F  by Choose [2]
| . |
| . .\
| . . 2. a : Assignment
| . . 3. True
```

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| . . 4. a |≠ F
| . . 5. True
| . . 6. a |= F
| . . ⊢   by UnfoldTopAb 0 THEN Choose [2] THEN AbReduce 0
| . . |
| . . ⊢  a |= F  ∨ False  by Choose [1] THEN Trivial
|
.\
. 1. F : Formula
. 2. |= <nil,[F]>
. 3. a : Full(F)
. ⊢  a |= F   by UnfoldTopAb -2
. |
. 2. ∀a:Full(<nil,[F]>). a |= <nil,[F]>
. 3. a : Full(F)
. ⊢   by With a (Analyze -2)
. |
. |\
. | .....wf .....
. | 2. a : Full(F)
. | ⊢  a ∈ Full(<nil,[F]>)  by AbSetMemEqTypeCD
. | |
. | |\
. | | ⊢  a ∈ Assignment  by Analyze -1
. | |
. | .\
. | . .....set predicate .....
. | . ⊢  a |= <nil,[F]> ∨ a |≠ <nil,[F]>  by Analyze -1
. | . |
. | . 2. a : Assignment
. | . 3. a |= F  ∨ a |≠ F
. | . ⊢   by Analyze -1
. | . |
. | . |\
. | . | 3. a |= F
. | . | ⊢   by Choose [1] THEN UnfoldTopAb 0 THEN AbReduce 0
. | . | |
. | . | ⊢  False ∨ a |= F  ∨ False  by Choose [2;1] THEN Trivial
. | . |
. | . .\
. | . . 3. a |≠ F
. | . . ⊢   by Choose [2] THEN UnfoldTopAb 0 THEN AbReduce 0
. | . . |
. | . . ⊢  True & a |≠ F & True  by Auto
. |
. .\
. . 2. a : Full(F)

. . 3. a |= <nil,[F]>
. . ⊢   by UnfoldTopAb -1 THEN AbReduce -1
. . |
. . 3. False ∨ a |= F  ∨ False
. . ⊢   by Repeat (Analyze -1)
END
```