

## tab.1 Tableaux for Other Logics

mod:tab:mpr:  
sec

**Example tab.1.** We give a closed tableau that shows  $\mathbf{S5} \vdash 5$ , i.e.,  $\Box\varphi \rightarrow \Box\Diamond\varphi$ .

|    |   |                           |
|----|---|---------------------------|
| 1. | $1\mathbb{F} \Box\varphi \rightarrow \Box\Diamond\varphi$ | Assumption                |
| 2. | $1\mathbb{T} \Box\varphi$                                 | $\rightarrow\mathbb{F} 1$ |
| 3. | $1\mathbb{F} \Box\Diamond\varphi$                         | $\rightarrow\mathbb{F} 1$ |
| 4. | $1.1\mathbb{F} \Diamond\varphi$                           | $\Box\mathbb{F} 3$        |
| 5. | $1\mathbb{F} \Diamond\varphi$                             | $4r\Diamond 4$            |
| 6. | $1.1\mathbb{F} \varphi$                                   | $\Diamond\mathbb{F} 5$    |
| 7. | $1.1\mathbb{T} \varphi$                                   | $\Box\mathbb{T} 2$        |
|    | $\otimes$   |                           |

**Problem tab.1.** Give closed **tableaux** that show the following:

1.  $\mathbf{KT5} \vdash B$ ;
2.  $\mathbf{KT5} \vdash 4$ ;
3.  $\mathbf{KDB4} \vdash T$ ;
4.  $\mathbf{KB4} \vdash 5$ ;
5.  $\mathbf{KB5} \vdash 4$ ;
6.  $\mathbf{KT} \vdash D$ .

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## Bibliography