

$\frac{\sigma \mathbf{T}\Box\varphi}{\sigma \mathbf{T}\varphi} \mathbf{T}\Box$	$\frac{\sigma \mathbf{F}\Diamond\varphi}{\sigma \mathbf{F}\varphi} \mathbf{T}\Diamond$
$\frac{\sigma \mathbf{T}\Box\varphi}{\sigma \mathbf{T}\Diamond\varphi} \mathbf{D}\Box$	$\frac{\sigma \mathbf{F}\Diamond\varphi}{\sigma \mathbf{F}\Box\varphi} \mathbf{D}\Diamond$
$\frac{\sigma.n \mathbf{T}\Box\varphi}{\sigma \mathbf{T}\varphi} \mathbf{B}\Box$	$\frac{\sigma.n \mathbf{F}\Diamond\varphi}{\sigma \mathbf{F}\varphi} \mathbf{B}\Diamond$
$\frac{\sigma \mathbf{T}\Box\varphi}{\sigma.n \mathbf{T}\Box\varphi} 4\Box$ $\sigma.n$ is used	$\frac{\sigma \mathbf{F}\Diamond\varphi}{\sigma.n \mathbf{F}\Diamond\varphi} 4\Diamond$ $\sigma.n$ is used
$\frac{\sigma.n \mathbf{T}\Box\varphi}{\sigma \mathbf{T}\Box\varphi} 4r\Box$	$\frac{\sigma.n \mathbf{F}\Diamond\varphi}{\sigma \mathbf{F}\Diamond\varphi} 4r\Diamond$

Table 1: More modal rules.

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tab:more-rules

Logic	R is ...	Rules
T = KT	reflexive	$\mathbf{T}\Box, \mathbf{T}\Diamond$
D = KD	serial	$\mathbf{D}\Box, \mathbf{D}\Diamond$
K4	transitive	$4\Box, 4\Diamond$
B = KTB	reflexive, symmetric	$\mathbf{T}\Box, \mathbf{T}\Diamond$ $\mathbf{B}\Box, \mathbf{B}\Diamond$
S4 = KT4	reflexive, transitive	$\mathbf{T}\Box, \mathbf{T}\Diamond,$ $4\Box, 4\Diamond$
S5 = KT4B	reflexive, transitive, euclidean	$\mathbf{T}\Box, \mathbf{T}\Diamond,$ $4\Box, 4\Diamond,$ $4r\Box, 4r\Diamond$

Table 2: **Tableau** rules for various modal logics.

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tab:logics-rules

tab.1 Rules for Other Accessibility Relations

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In order to deal with logics determined by special accessibility relations, we consider the additional rules in [table 1](#).

Adding these rules results in systems that are sound and complete for the logics given in [section tab.1](#).

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Bibliography