$$\varphi_1 \, \mathtt{M} \, \varphi_2 \stackrel{\mathtt{def}}{=} \varphi_1 \, \mathtt{R} \, \varphi_2 \, \wedge \, \mathtt{F}(\varphi_1 \, \wedge \, \varphi_2)$$

$$\stackrel{\mathtt{n,dsc,t}}{=} \neg(\neg \boxed{\varphi_1} \, \mathtt{U} \, (\neg \boxed{\varphi_2} \, \wedge \, (\neg \boxed{\varphi_1} \, \vee \, sing) \, \wedge \, alive)) \, \wedge$$
$$(true \, \mathtt{U} \, (\boxed{\varphi_1} \, \wedge \, \boxed{\varphi_2} \, \wedge \, alive))$$