Table 3S. The measured quantum yield ($\Phi_{PPFD \leq 200}$, $\Phi_{PPFD \leq 160}$, $\Phi_{PPFD \leq 120}$), light saturation point (LSP), light-saturated net photosynthetic rate ($P_{Nmax}$), light compensation point (LCP), dark respiration rate ($R_D$) and their fitted values by using the four models of *Pinus tabulaeformis* under different relative soil water contents (RWC). Each value is the mean of 27 replications or the mean ± SE of the fitted parameters at 0.05 significant level. The coefficient of determination ($R^2$), the mean square error (MSE) and the mean absolute error (MAE) are listed for each model. $\Phi_{PPFD \leq 200}$, $\Phi_{PPFD \leq 160}$, $\Phi_{PPFD \leq 120}$ are the apparent quantum yield when the upper limits of photosynthetic photon flux density (PPFD) are 200, 160, and 120 $\mu$mol m$^{-2}$ s$^{-1}$, respectively; $\Phi_0$ and $\Phi_c$ are the quantum yield at the light compensation point and at zero irradiance, respectively; $\Phi_c$ is the absolute value of the slope of the photosynthetic rate-light response curve between zero irradiance and LCP.

<table>
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<th>Model</th>
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<th>RWC = 92.60%</th>
<th>RWC = 84.71%</th>
<th>RWC = 63.98%</th>
<th>RWC = 50.51%</th>
<th>RWC = 39.86%</th>
<th>RWC = 33.38%</th>
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<td>13.73</td>
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<td>( P_{\text{simus}} ) [( \mu \text{mol m}^{-2} \text{s}^{-1} )]</td>
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