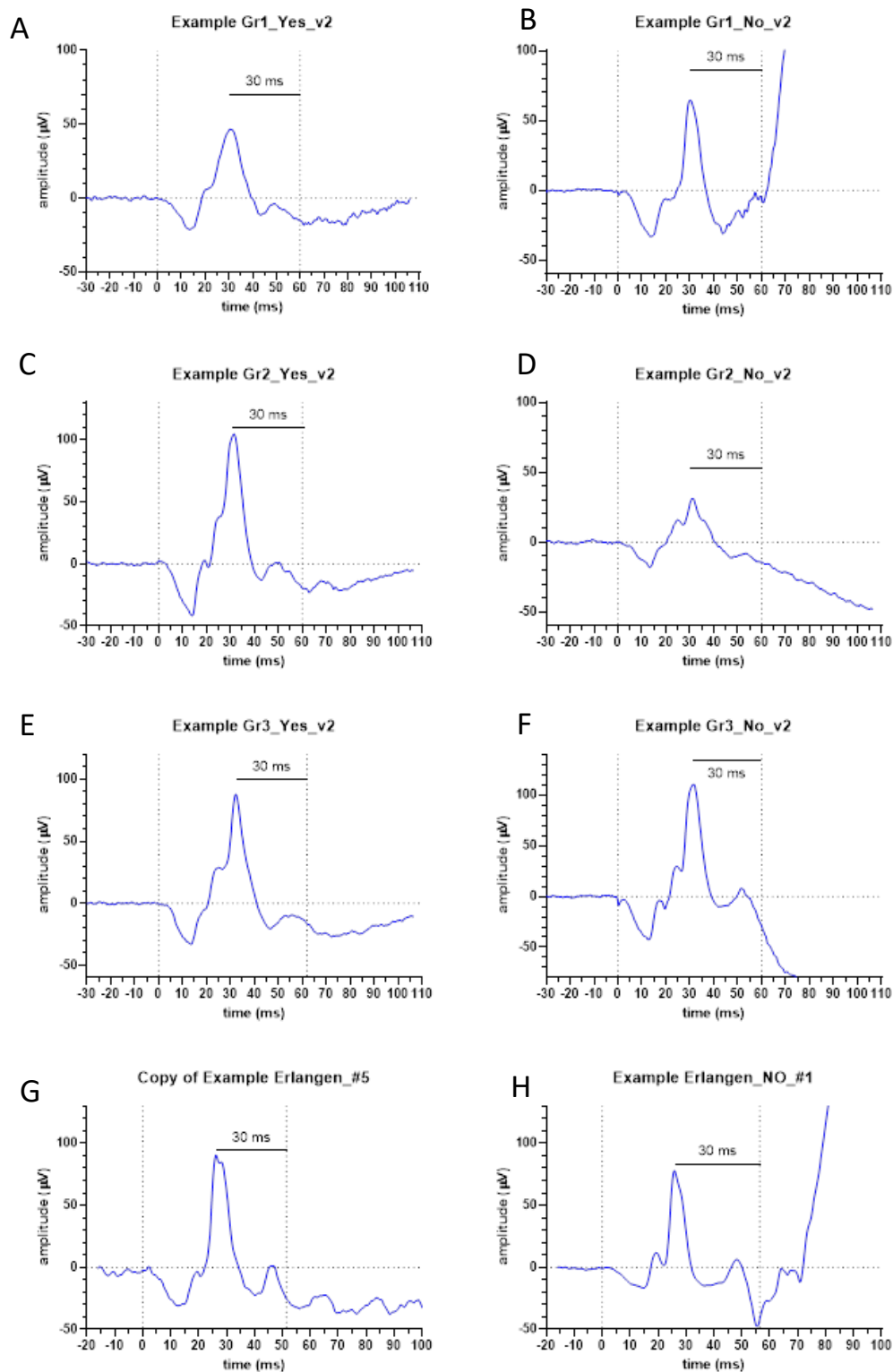
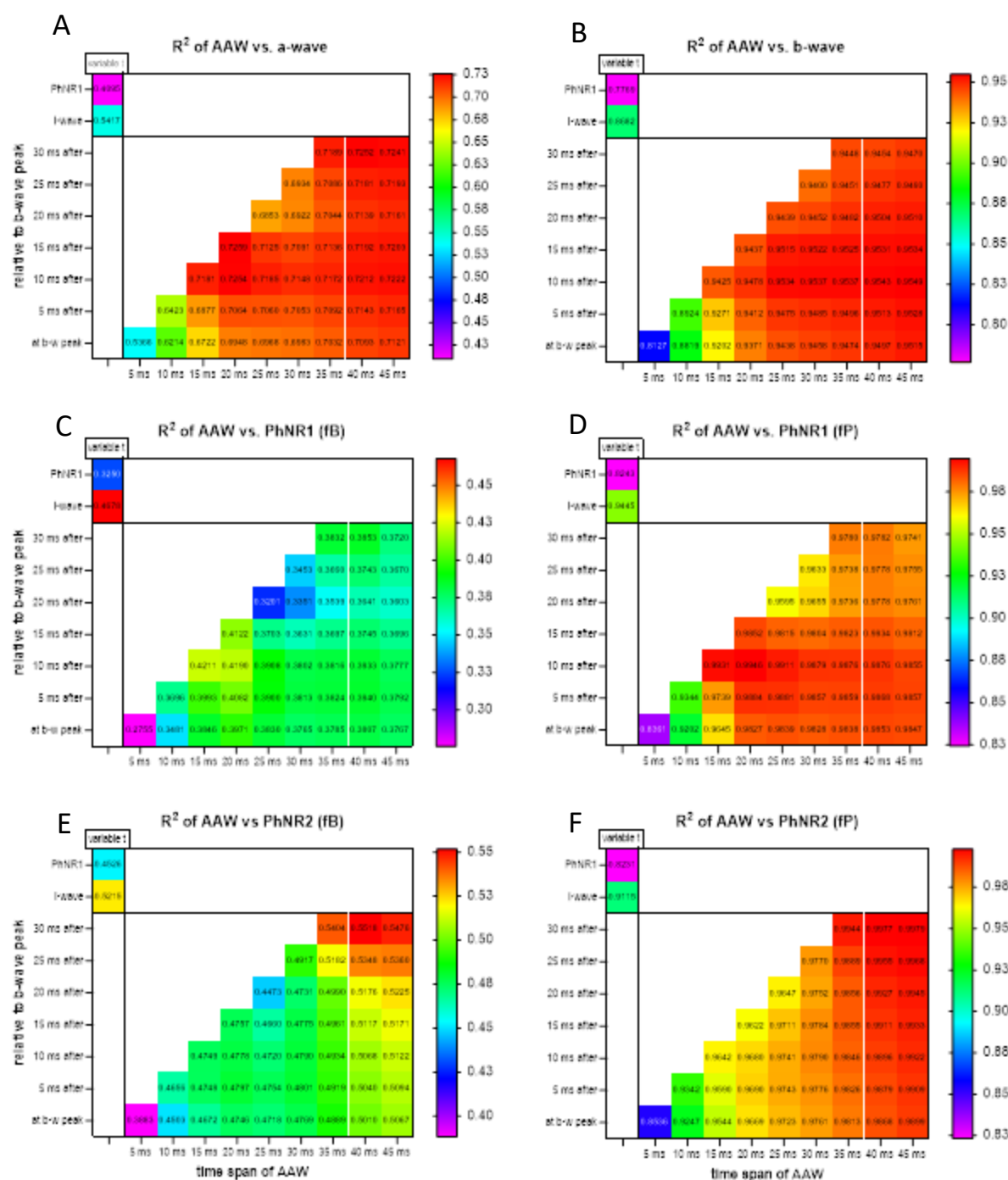


Supplementary Information for
The area under the waveform as an alternative
measure of the photopic negative response
by Tzekov et al. 2025

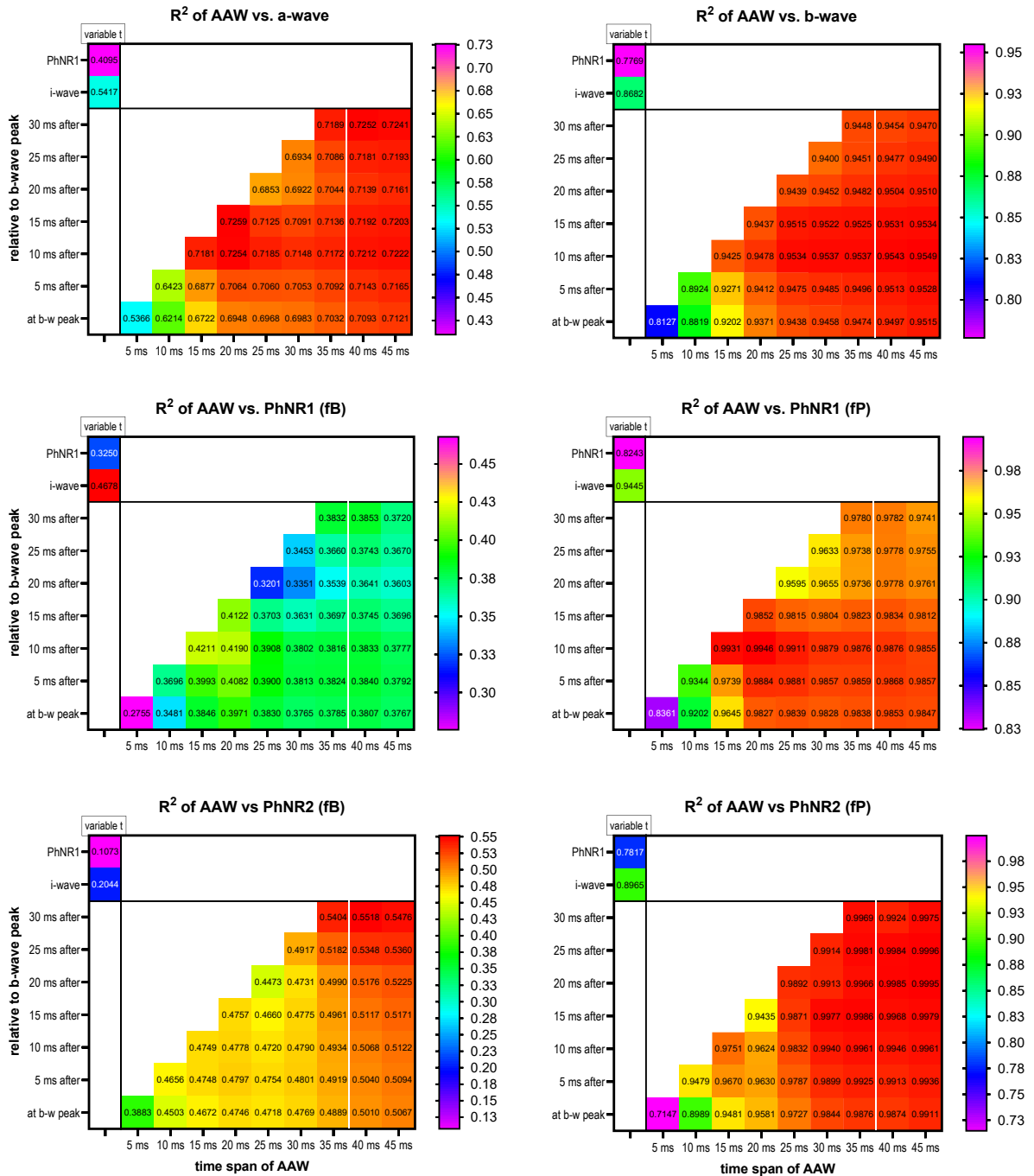


Supplementary Figure 1.: Representative traces from ERG recordings with clearly identifiable PhNR troughs versus recordings with artifacts occurring during the time of the PhNR trough.

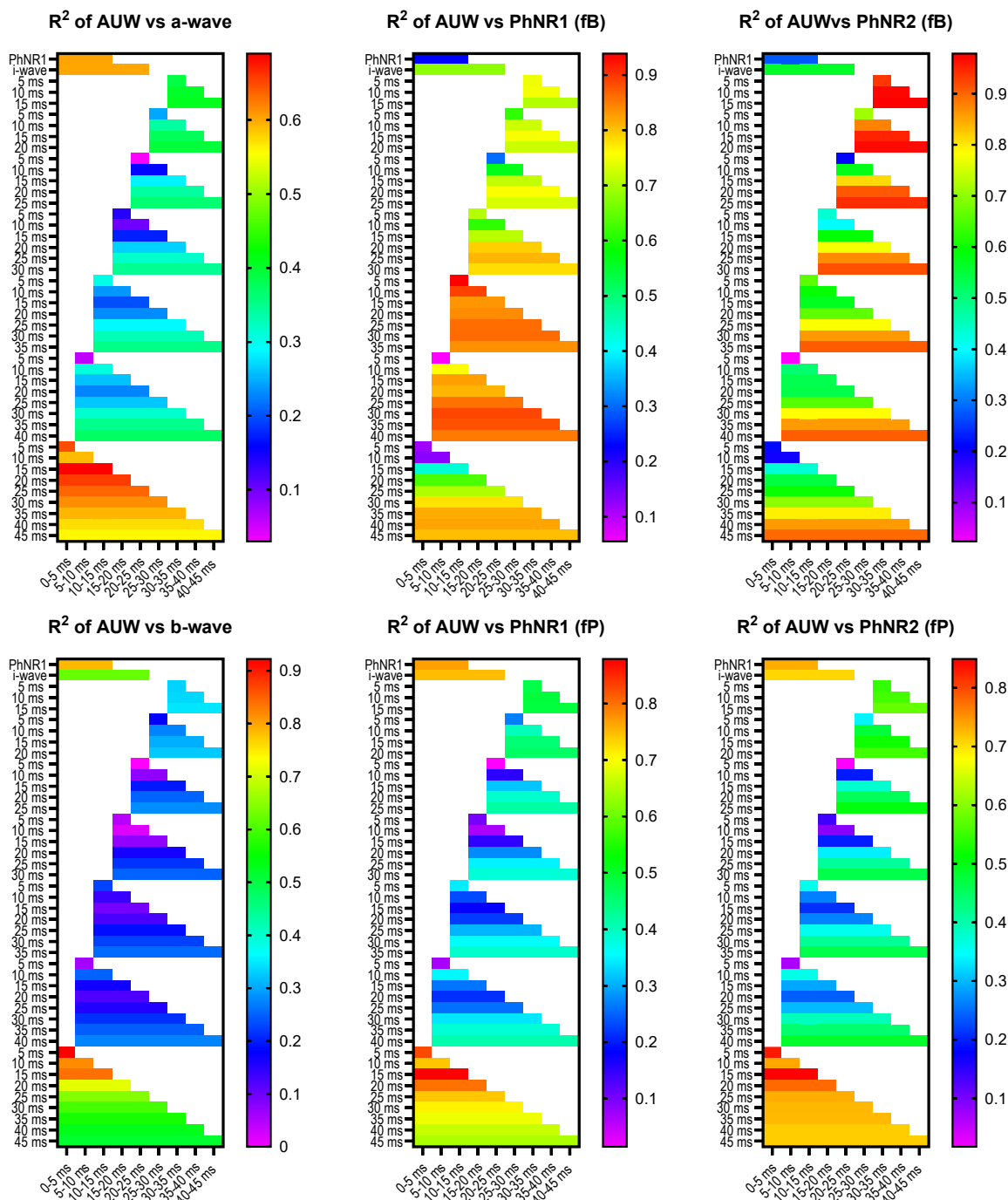
(A), (C), (E): traces from USF patients' right eye recordings where the PhNR trough is clearly identifiable. (B), (D), (F): traces from USF patients' right eye recordings where the PhNR trough is not identifiable due to the presence of artifacts. (G): recording from the right eye of a normal healthy volunteer with a clearly identifiable PhNR trough. (H): recording from the right eye of a normal healthy volunteer without a clearly identifiable PhNR trough due to the presence of artifact.



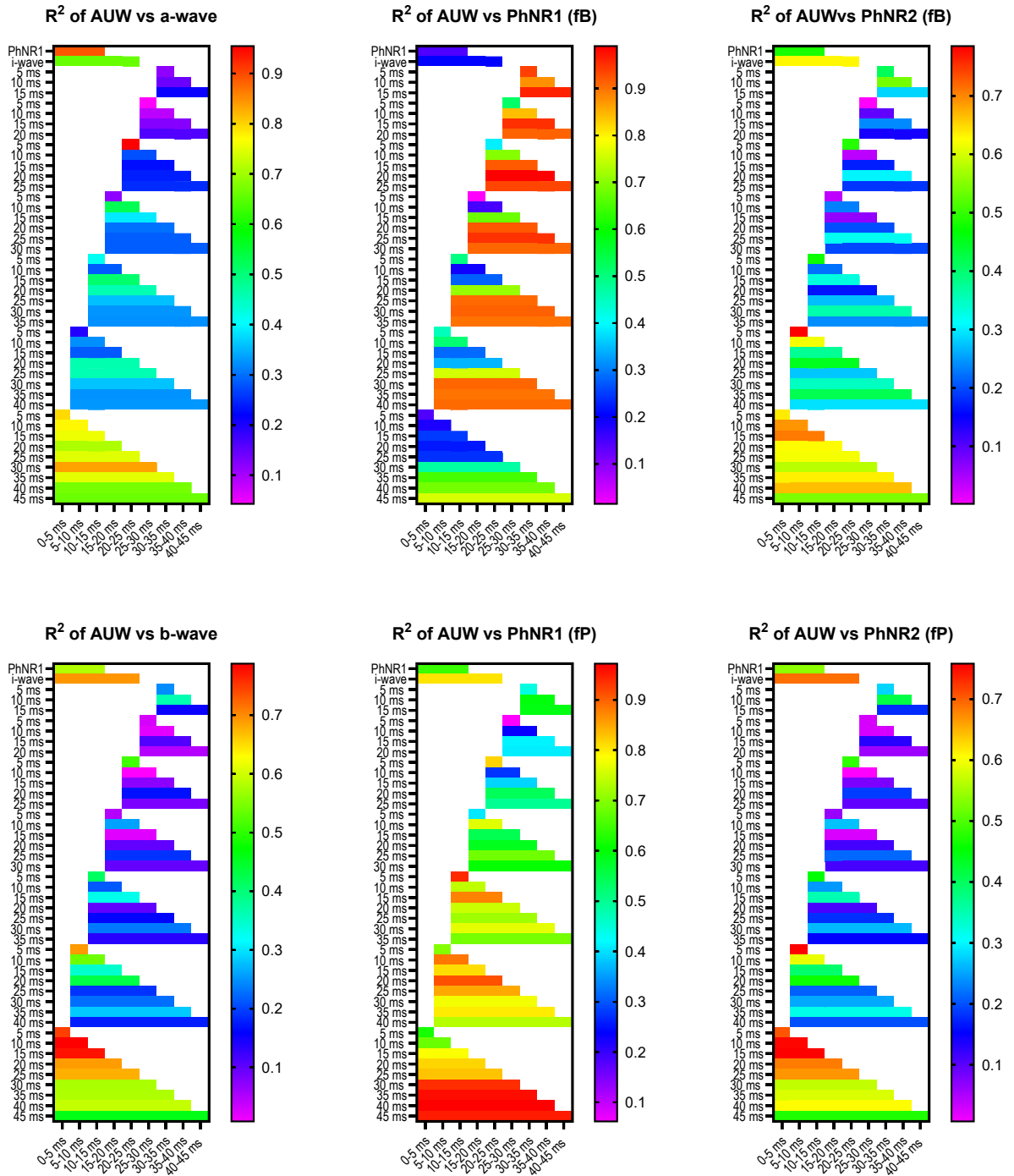
Supplementary Figure 2. R^2 distribution for linear regression models of different spans and starting points of AAW vs. PhNR2 (fB) and PhNR2 (fP) amplitudes for USF patients. (A) AAW vs. a-wave; (B) AAW vs. b-wave; (C) AAW vs. PhNR1 (fB); (D) AAW vs. PhNR1 (fP); (E) AAW vs. PhNR2 (fB); (F) AAW vs. PhNR2 (fP)



Supplementary Figure 3. R^2 distribution for linear regression models of different spans and starting points of AAW vs. PhNR2 (fB) and PhNR2 (fP) amplitudes for normal healthy volunteers. (A) AAW vs. a-wave; (B) AAW vs. b-wave; (C) AAW vs. PhNR1 (fB); (D) AAW vs. PhNR1 (fP); (E) AAW vs. PhNR2 (fB); (F) AAW vs. PhNR2 (fP)



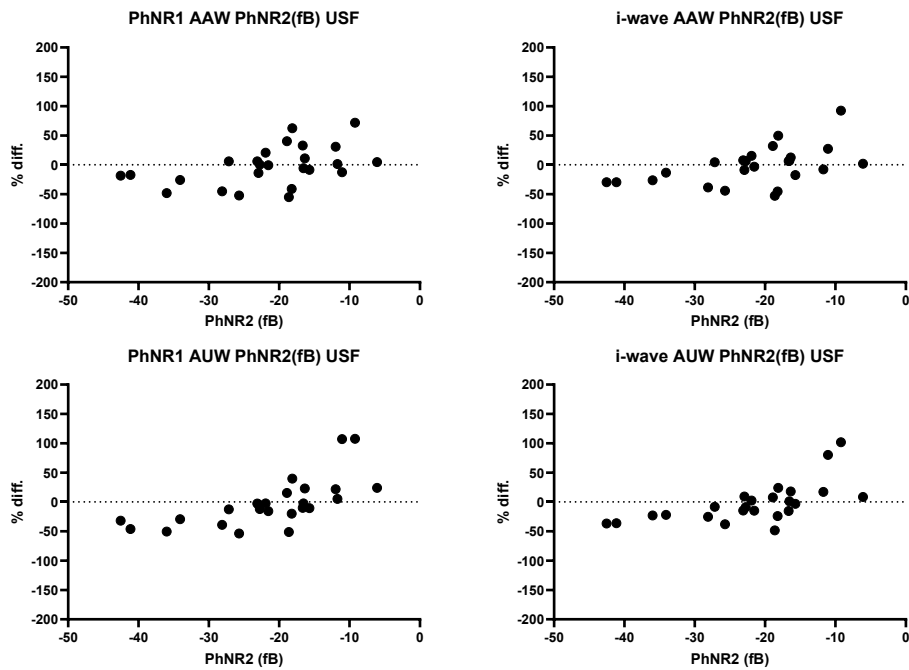
Supplementary Figure 4. R² distribution for linear regression models of different spans and starting points of AUW vs. PhNR2 (fB) and PhNR2 (fP) amplitudes for USF patients. (A) AUW vs. a-wave; (B) AUW vs. b-wave; (C) AUW vs. PhNR1 (fB); (D) AUW vs. PhNR1 (fP); (E) AUW vs. PhNR2 (fB); (F) AUW vs. PhNR2 (fP)



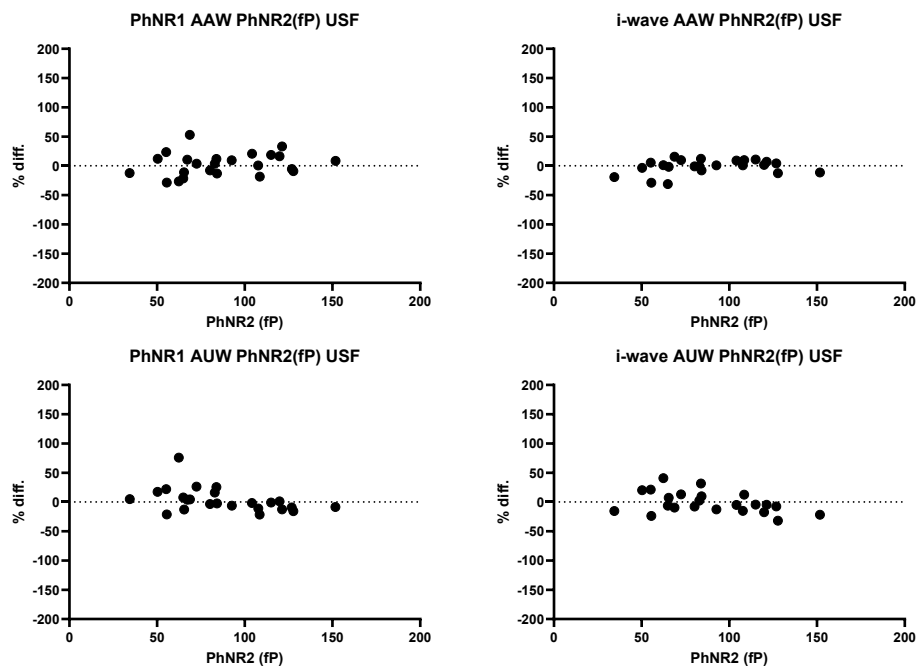
Supplementary Figure 5. R^2 distribution for linear regression models of different spans and starting points of AUV vs. PhNR2 (fB) and PhNR2 (fP) amplitudes for normal healthy volunteers. (A) AUV vs. a-wave; (B) AUV vs. b-wave; (C) AUV vs. PhNR1 (fB); (D) AUV vs. PhNR1 (fP); (E) AUV vs. PhNR2 (fB); (F) AUV vs. PhNR2 (fP)

Supplementary Table 1. Summary of the R² values presented in Supplementary figures 2-5. Only the highest R² values from the fixed-time areas are presented in the columns labeled as best of fixed-time (BOFT). The highest R² values for each ERG parameter and each subject group are shown in bold letters.

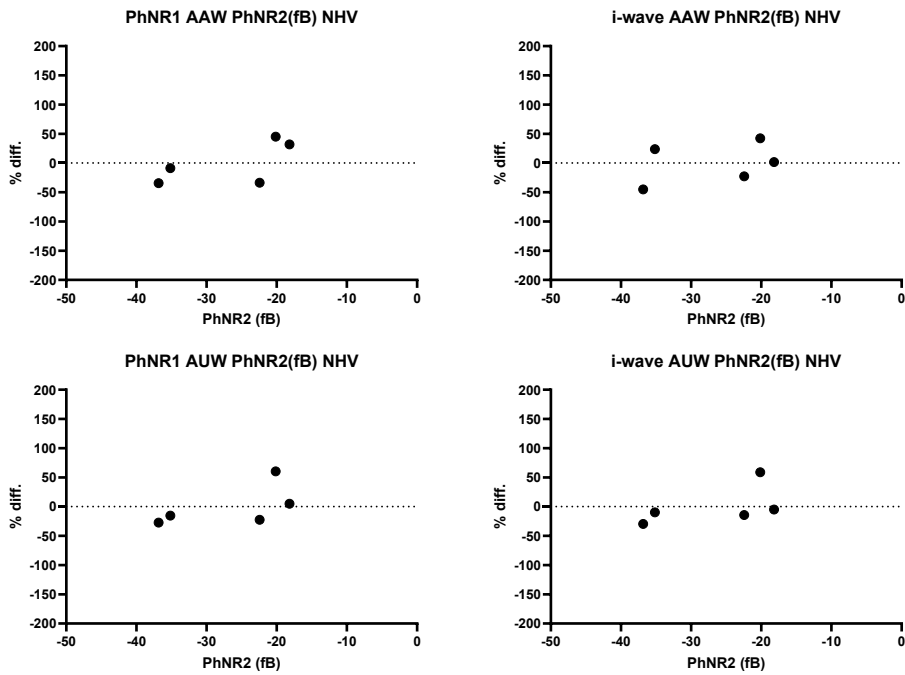
	USF patients						NHVs					
	AUW			AAW			AUW			AAW		
	PhNR1 area	i-wave area	BOFT	PhNR1 area	i-wave area	BOFT	PhNR1 area	i-wave area	BOFT	PhNR1 area	i-wave area	BOFT
a-wave	0.6053	0.6030	0.6897	0.4095	0.5417	0.7259	0.8932	0.6628	0.9544	0.4095	0.5417	0.7259
b-wave	0.7880	0.6259	0.9220	0.7769	0.8682	0.9549	0.5833	0.6951	0.7874	0.7769	0.8682	0.9549
PhNR1 (fB)	0.2326	0.6826	0.9385	0.325	0.4678	0.4211	0.1489	0.2097	0.9897	0.325	0.4678	0.4211
PhNR1 (fP)	0.7703	0.7502	0.8787	0.8243	0.9445	0.9946	0.6483	0.8084	0.9717	0.8243	0.9445	0.9946
PhNR2 (fB)	0.2798	0.5656	0.9781	0.4526	0.5215	0.5518	0.4854	0.6318	0.7848	0.1073	0.2044	0.5518
PhNR2 (fP)	0.7358	0.7089	0.8489	0.8231	0.9115	0.9979	0.5407	0.6931	0.7580	0.7817	0.8965	0.9996



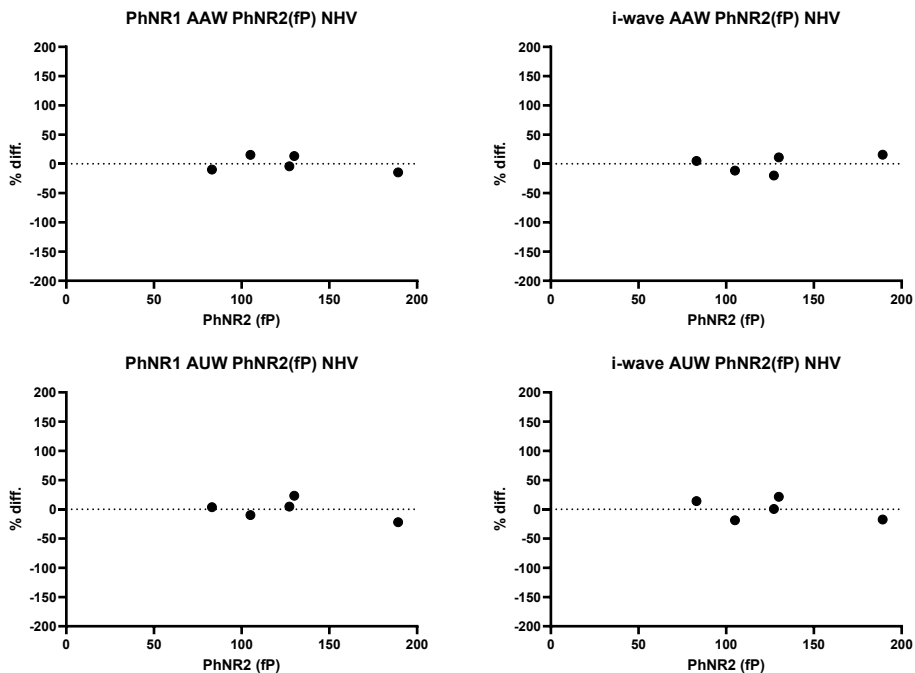
Supplementary Figure 6.: Relationship between measured PhNR2(fB) amplitude and percentage prediction error of PhNR2(fB) amplitude predicted based on AAW/AUW AUCs for USF patients. Top left: prediction error based on PhNR1 AAW; top right: based on i-wave AAW. Bottom left: prediction error based on PhNR1 AUW; bottom right: based on i-wave AUW.



Supplementary Figure 7. Relationship between measured PhNR2(fP) amplitude and percentage prediction error of PhNR2(fP) amplitude predicted based on a PhNR1(fP) amplitude or various AUC values for USF patients. Top left: prediction error based on PhNR1 AAW; top right: based on i-wave AAW. Bottom left: prediction error based on PhNR1 AUW; bottom right: based on i-wave AUW.



Supplementary Figure 8. Relationship between measured PhNR2(fB) amplitude and percentage error of PhNR2(fB) amplitude predicted based on a PhNR1(fB) amplitude or various AUC values for healthy volunteers Top left: prediction error based on PhNR1 AAW; top right: based on i-wave AAW. Bottom left: prediction error based on PhNR1 AUW; bottom right: based on i-wave AUW.



Supplementary Figure 9. Relationship between measured PhNR2(fP) amplitude and percentage error of PhNR2(fP) amplitude predicted based on a PhNR1(fP) amplitude or various AUC values for healthy volunteers. Top left: prediction error based on PhNR1 AAW; top right: based on i-wave AAW. Bottom left: prediction error based on PhNR1 AUW; bottom right: based on i-wave AUW.