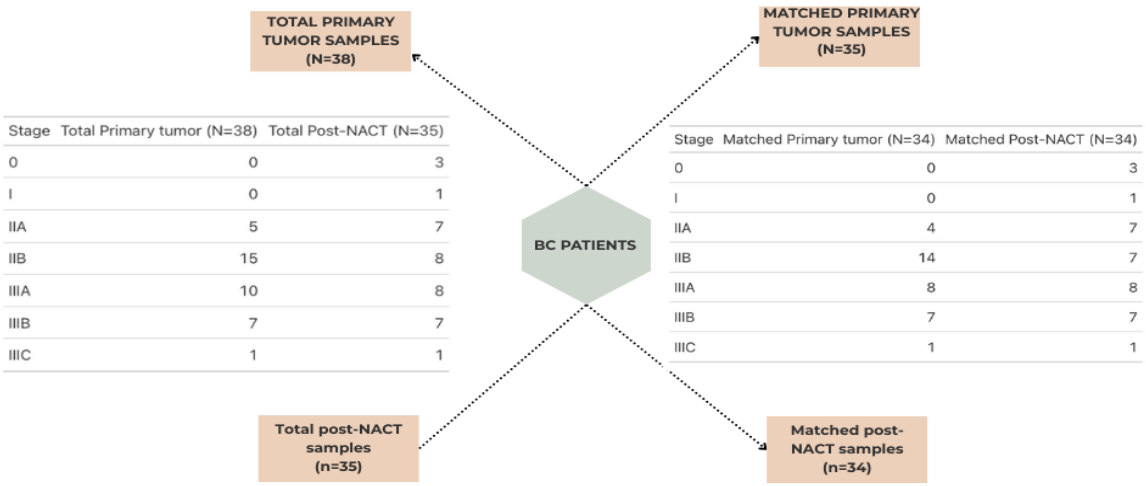
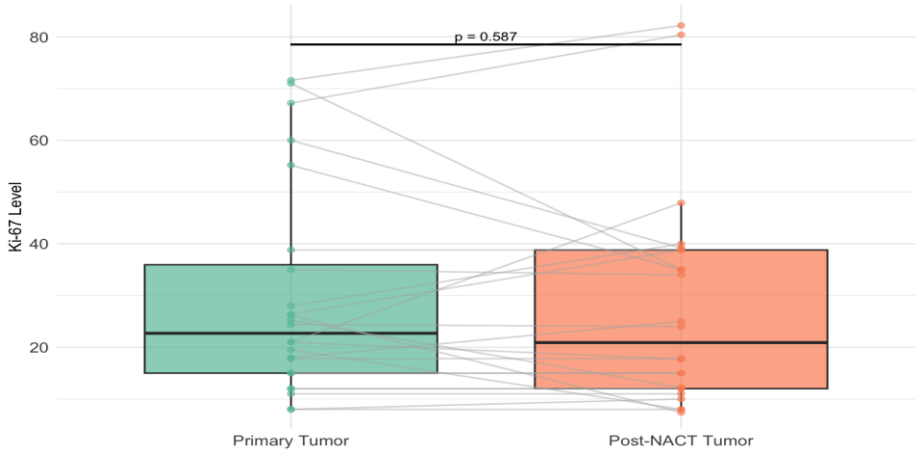
supplementary-material



Stage	Total Primary tumor (N=38)	Total Post-NACT (N=35)
0	0	3
I	0	1
IIA	5	7
IIB	15	8
IIIA	10	8
IIIB	7	7
IIIC	1	1

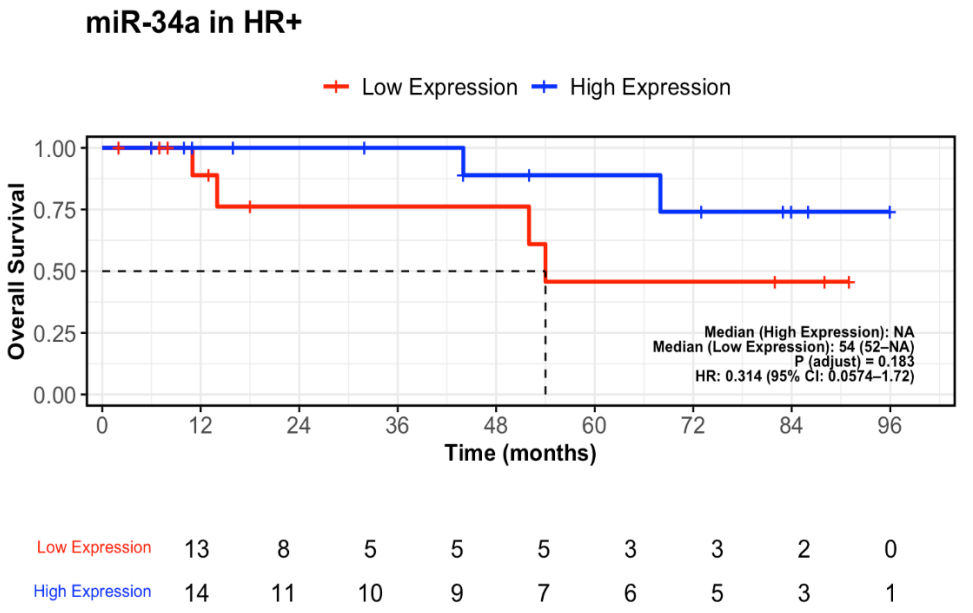
Stage	Matched Primary tumor (N=34)	Matched Post-NACT (N=34)
0	0	3
I	0	1
IIA	4	7
IIB	14	7
IIIA	8	8
IIIB	7	7
IIIC	1	1

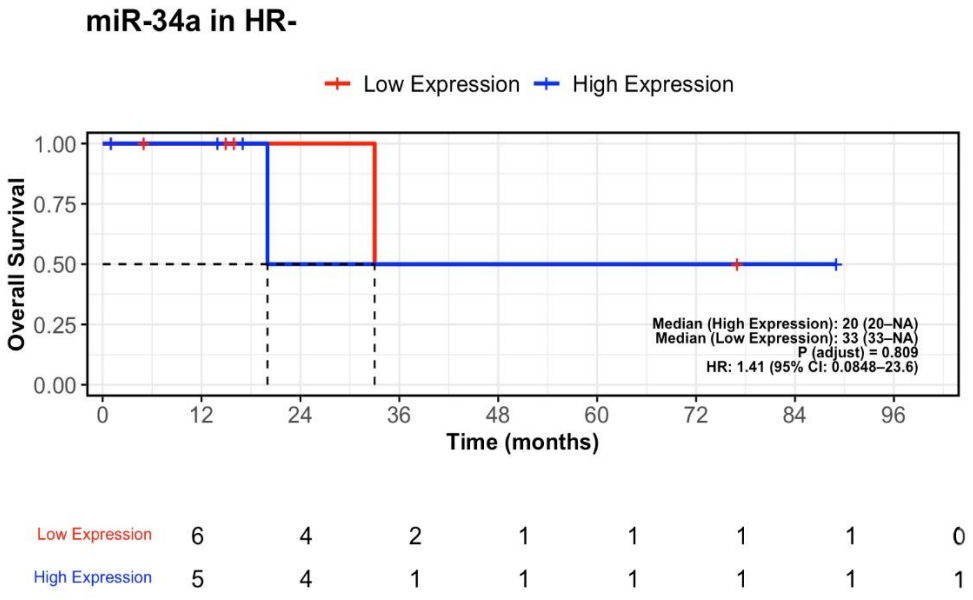
Supplementary Figure 1. Flow chart of patient numbers and tumor stages across primary, post-NACT, and matched samples.



Supplementary Figure 2. Ki-67 expression before and after NACT in paired breast tumor samples (n=24).

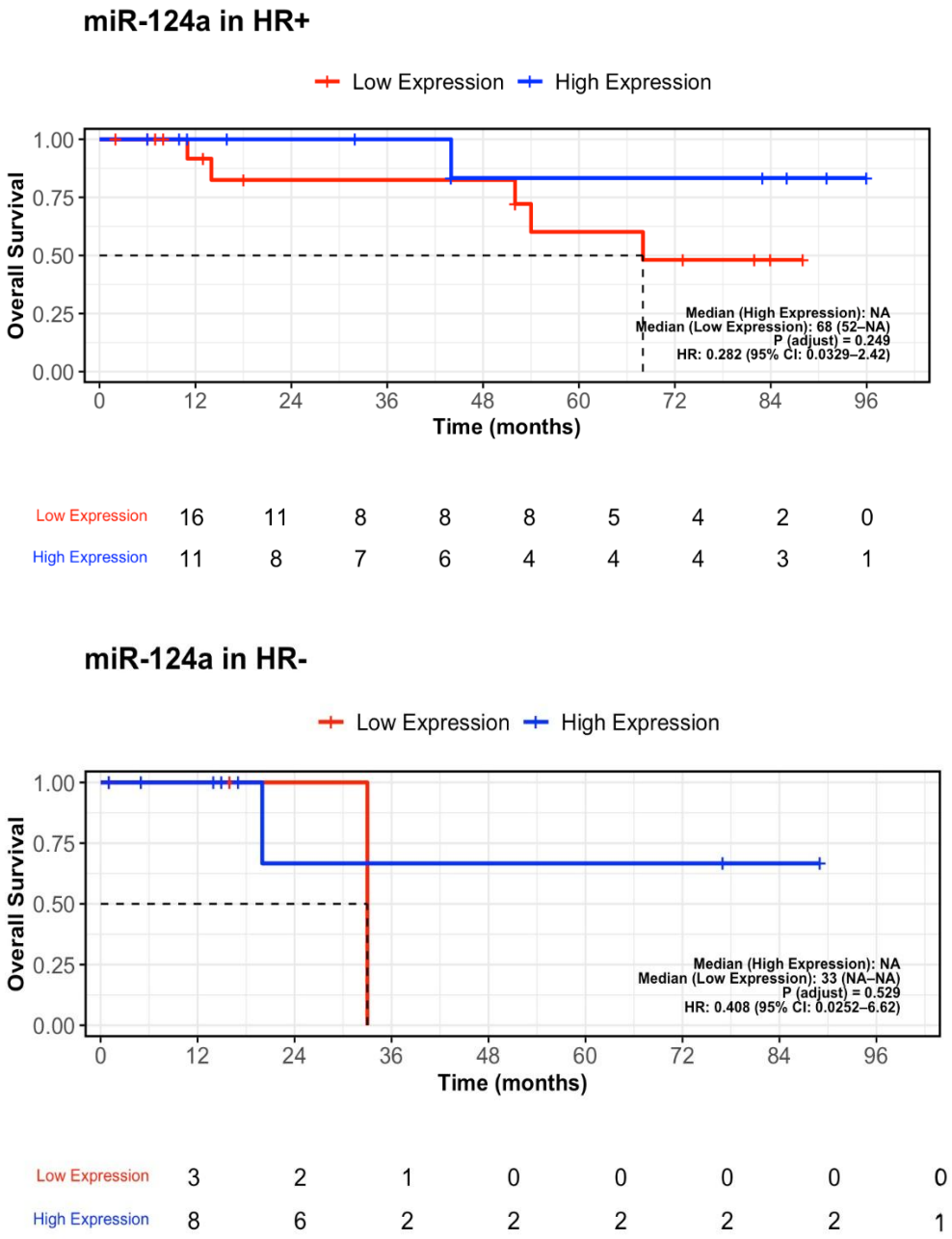
Paired Ki-67 values from 24 patients were measured before and after treatment and compared using the Wilcoxon signed-rank test. The box plot displays the distribution of Ki-67 levels, with gray lines connecting individual paired values to illustrate within-patient changes. A slight decrease in the median and an increase in variance were observed after NACT; however, the difference was not statistically significant.





Supplementary Figure 3. OS stratified by miR-34a expression in HR-positive and HR-negative primary breast tumors.

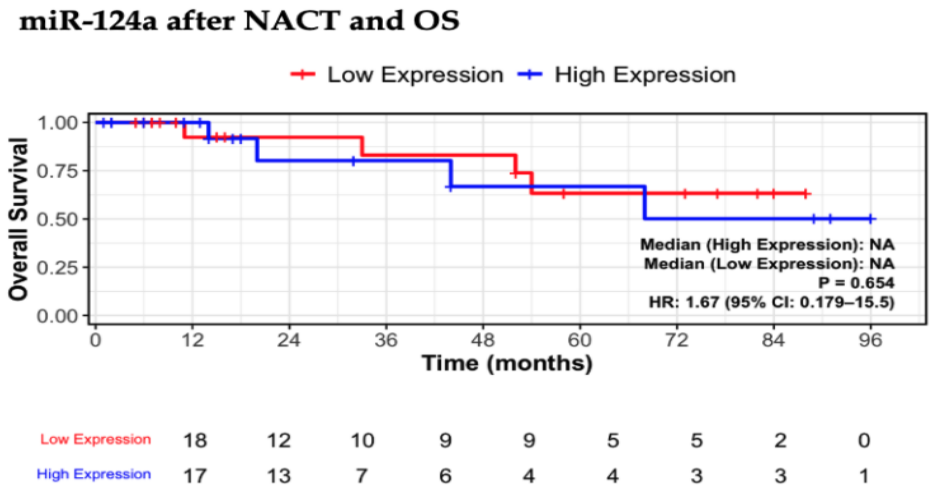
Patients were stratified into high and low miR-34a expression groups within each HR subgroup. Higher miR-34a expression showed a trend toward improved OS in HR-positive tumors but did not reach statistical significance, likely due to limited sample size. No association was observed in HR-negative tumors.



Supplementary Figure 4. OS stratified by miR-124a expression in HR-positive and HR-negative primary breast tumors.

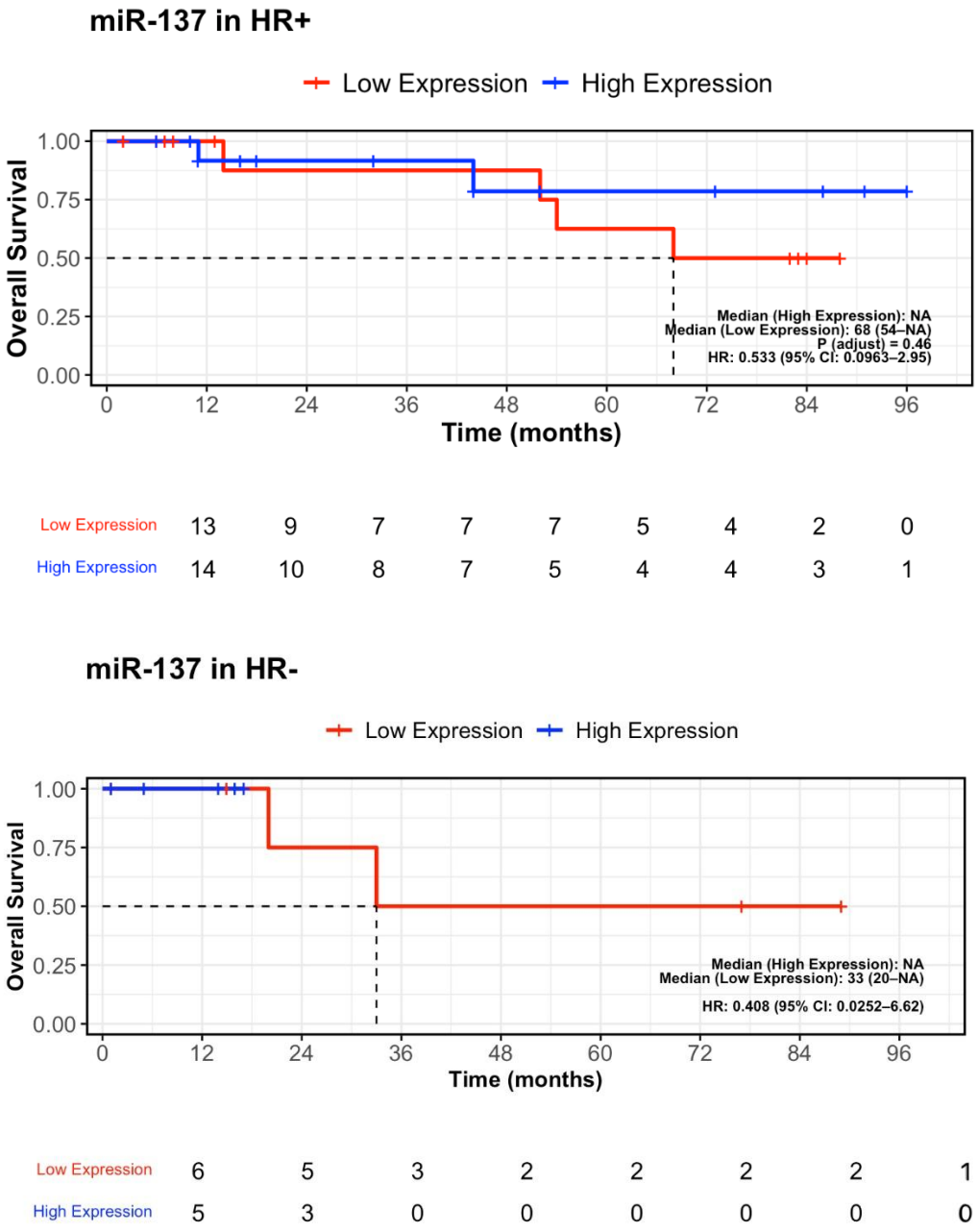
Patients were stratified into high and low miR-124a expression groups within HR subgroup. In HR-positive tumors, higher miR-124a expression showed a trend toward improved OS; however, this association did not reach statistical significance. No

significant association between miR-124a expression and OS was observed in HR-negative tumors.



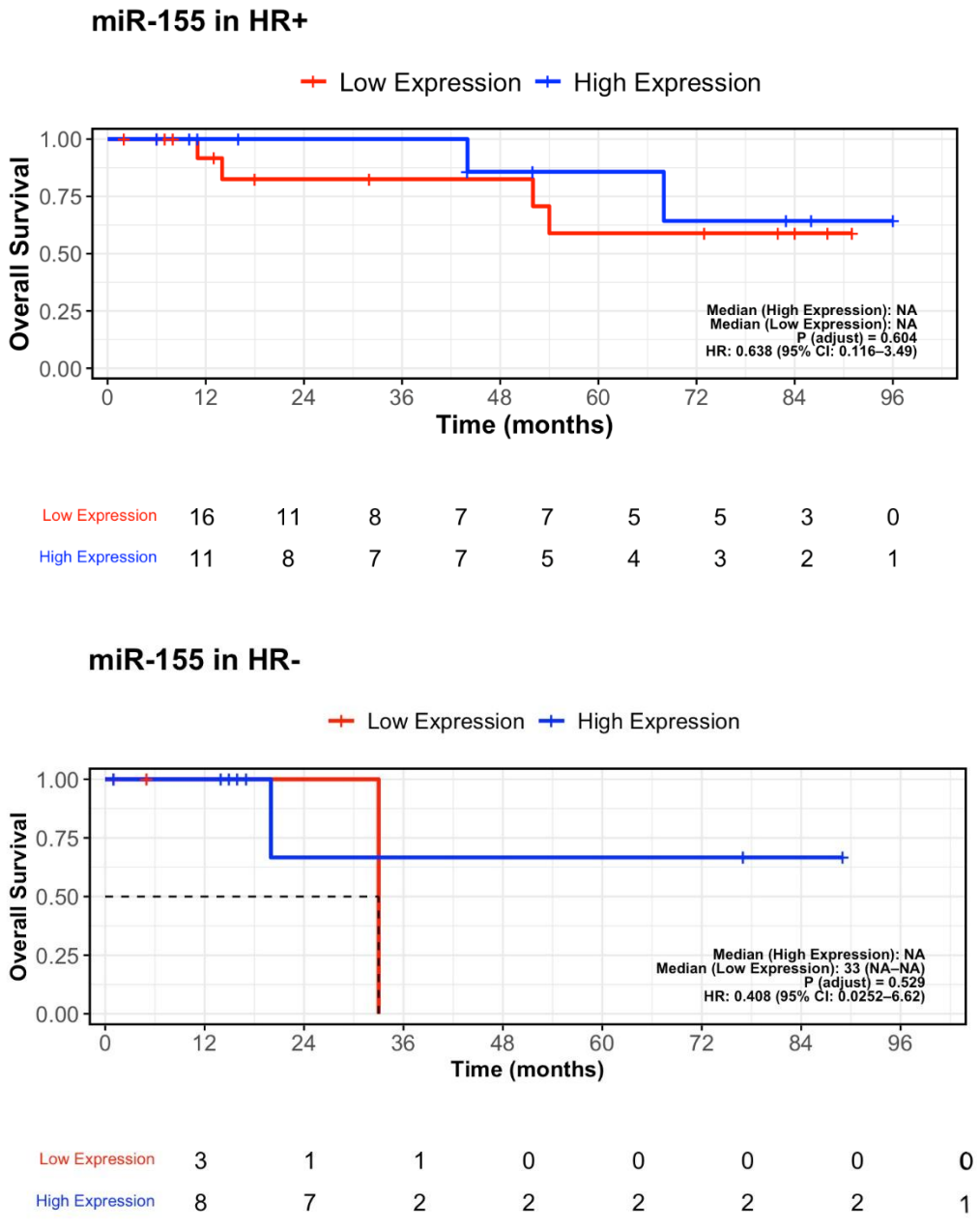
Supplementary Figure 5. OS according to miR-124a expression after NACT.

Patients were stratified into high and low miR-34a expression groups based on post-NACT tumor samples. Kaplan–Meier curves for OS showed substantial overlap, with no significant difference between high- and low-expression groups (HRs = 1.67, 95% CI: 0.179–15.5; p = 0.654),



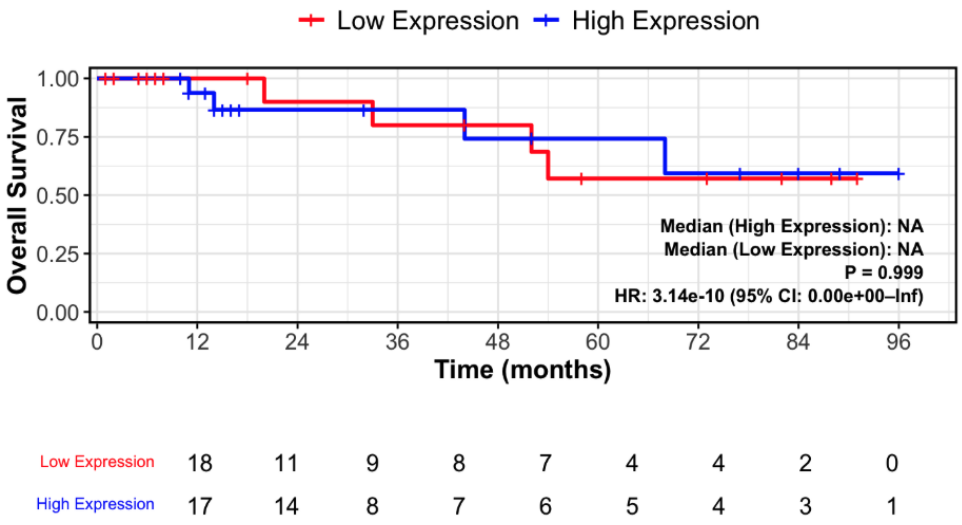
Supplementary Figure 6. OS stratified by miR-137 expression in HR-positive and HR-negative primary breast tumors.

Patients were stratified into high and low miR-137 expression groups within HR subgroup. Stratification by HR status revealed no significant associations.



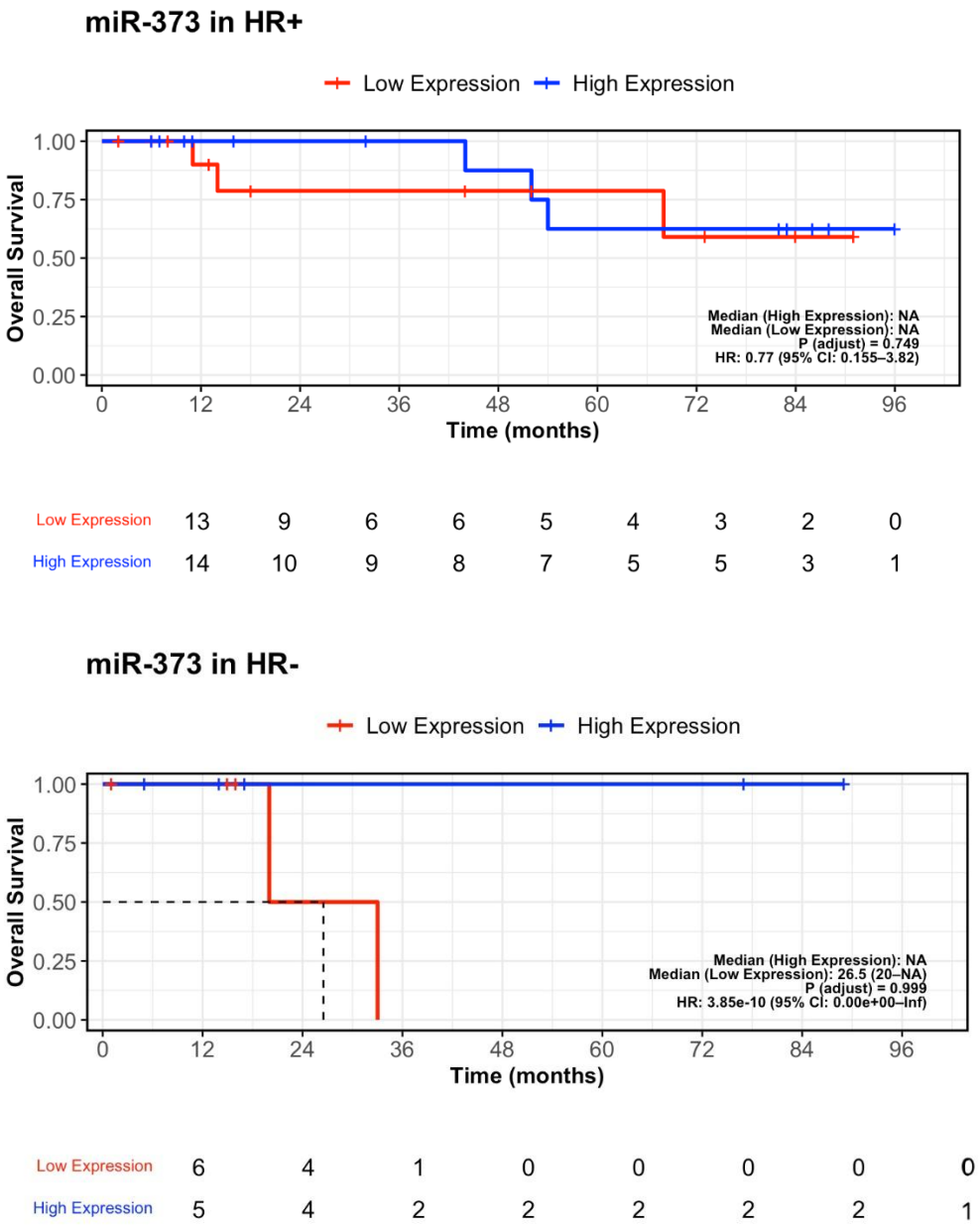
Supplementary Figure 7. OS stratified by miR-155 expression in HR-positive and HR-negative primary breast tumors.

Patients were stratified into high and low miR-155 expression groups within HR subgroup. No statistically significant associations between miR-155 expression and OS were observed in either subgroup. A modest separation of survival curves was noted in the HR-positive group; however, this did not reach statistical significance.



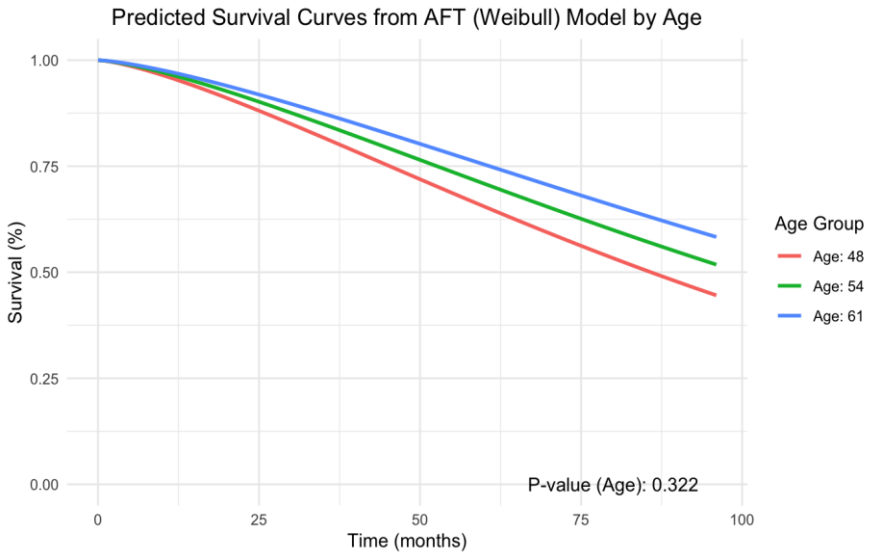
Supplementary Figure 8. OS according to miR-155 expression after NACT.

Patients were stratified into high and low miR-155 expression groups based on post-NACT tumor samples. Kaplan–Meier analysis showed no statistically significant association between miR-155 expression and OS (p = 0.999), with near-complete overlap of the survival curves.



Supplementary Figure 9. OS stratified by miR-373 expression in HR-positive and HR-negative primary breast tumors.

Patients were stratified into high and low miR-373 expression groups within HR subgroup. Kaplan–Meier analysis did not demonstrate statistically significant differences in either the HR-negative (p = 0.999) or HR-positive (p = 0.749) subgroups. In the HR-negative cohort, absence of events in the high-expression group limited statistical estimation, and results should be interpreted cautiously despite visible curve separation.



Supplementary Figure 10. Predicted survival across age groups using the Weibull AFT model; no significant association observed.