

## Supplemental Materials

### *Identification of Significant Within Patient Deterioration Thresholds*

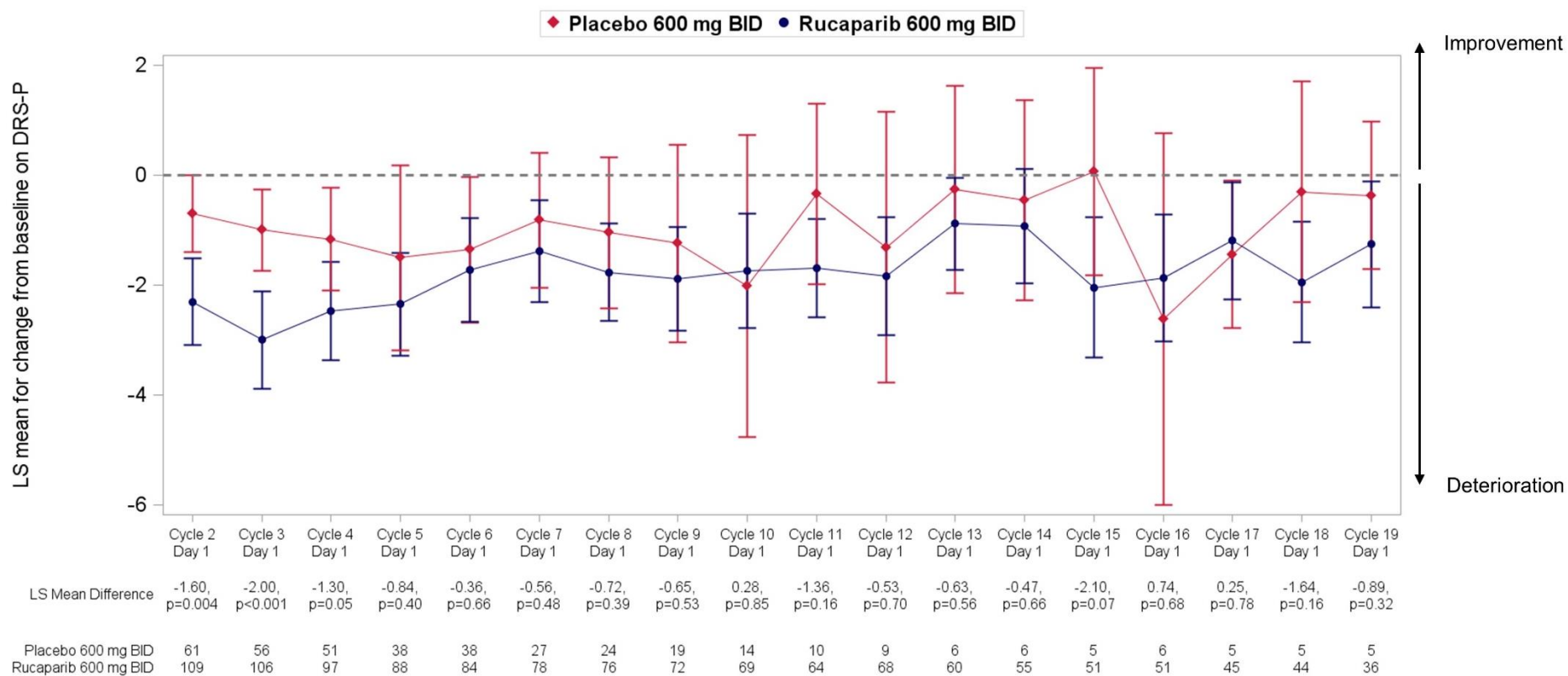
Deterioration thresholds were calculated to inform time to deterioration (TTD) analyses. TTD in HRQoL scores is a modality of longitudinal HRQoL assessment that is clinically meaningful for clinicians and is less affected by missing data than other methodologies. To identify thresholds for significant within-patient (individual level) deterioration on the DRS-P and NFOSI total, we calculated values representing the reliable change index (RCI)<sup>1</sup> and likely change index (LCI).<sup>2</sup> The RCI estimates statistically significant within patient change accounting for a pre-specified significance or confidence level and the standard error of measurement (SEM), or the expected measurement error for an individual assessment. The RCI has been recommended as an appropriate way to identify change among individual patients as opposed to group-level approaches to defining change.<sup>3</sup> We calculated the RCI as:  $(X_2 - X_1)/\sqrt{2} SEM$ , where  $X_1$  and  $X_2$  are the individual patient's DRS-P at cycle 1 day 1 and EOT, the SEM is the standard error of measurement and is defined as  $SD_1\sqrt{1 - reliability}$  ( $SD_1$  = standard deviation of the DRS-P or NFOSI-18 at the baseline, and the reliability is the internal consistency (Cronbach's alpha) coefficient at baseline). When the RCI value surpasses 1.96, the DRS-P deterioration is significant at 95% confidence (or  $p < 0.05$ ). Since the RCI sets a relatively high bar for change and is therefore prone to false negatives (high specificity; low sensitivity), we also used the critical value for 50% confidence (or  $p < 0.50$ ), which can be considered a reasonable LCI, intended to maximize the number of correctly-classified patients.<sup>2</sup> The LCI is calculated the same as the RCI but uses the lower p-value threshold.

## References

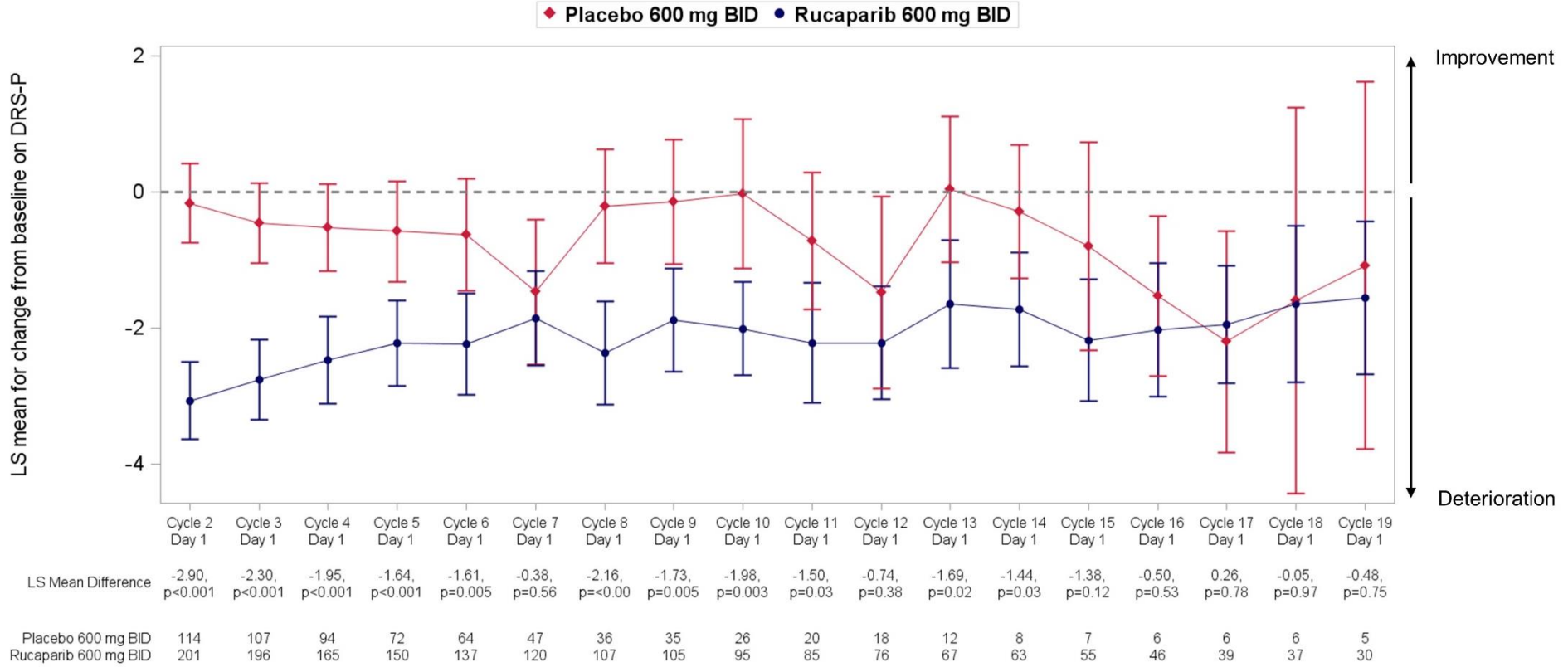
1. Jacobson NS, Truax P. Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*. 1991;59(1):12-19.
2. Peipert JD, Hays RD, Cella D. Likely change indexes improve estimates of individual change on patient-reported outcomes. *Qual Life Res*. 2022.
3. Hays RD, Peipert JD. Between-group minimally important change versus individual treatment responders. *Qual Life Res*. 2021;30(10):2765-2772.

**Supplemental Figures and Tables**

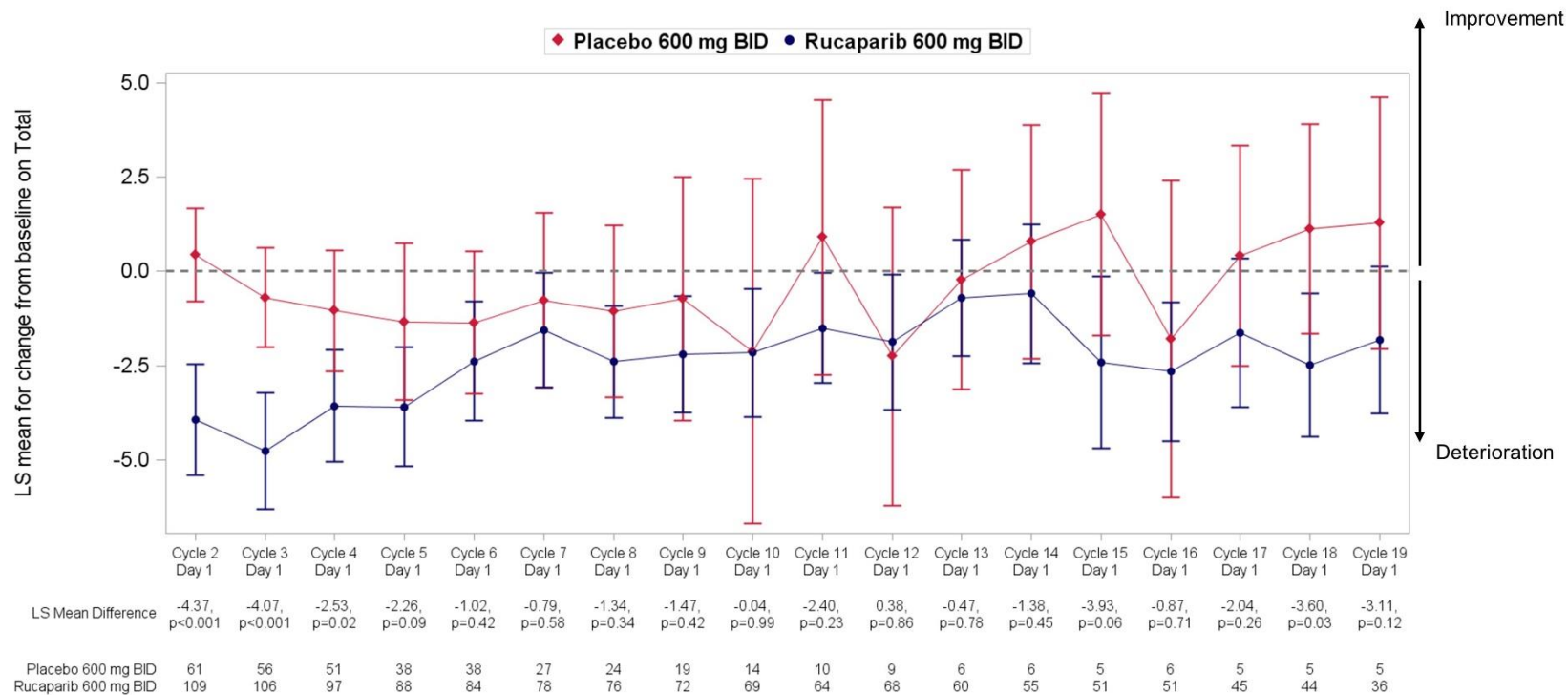
**Figure S1. Mixed Model Repeated Measures Analysis of Change from Baseline in NFOSI-18 DRS-P Score in the BRCA Mutant Cohort**



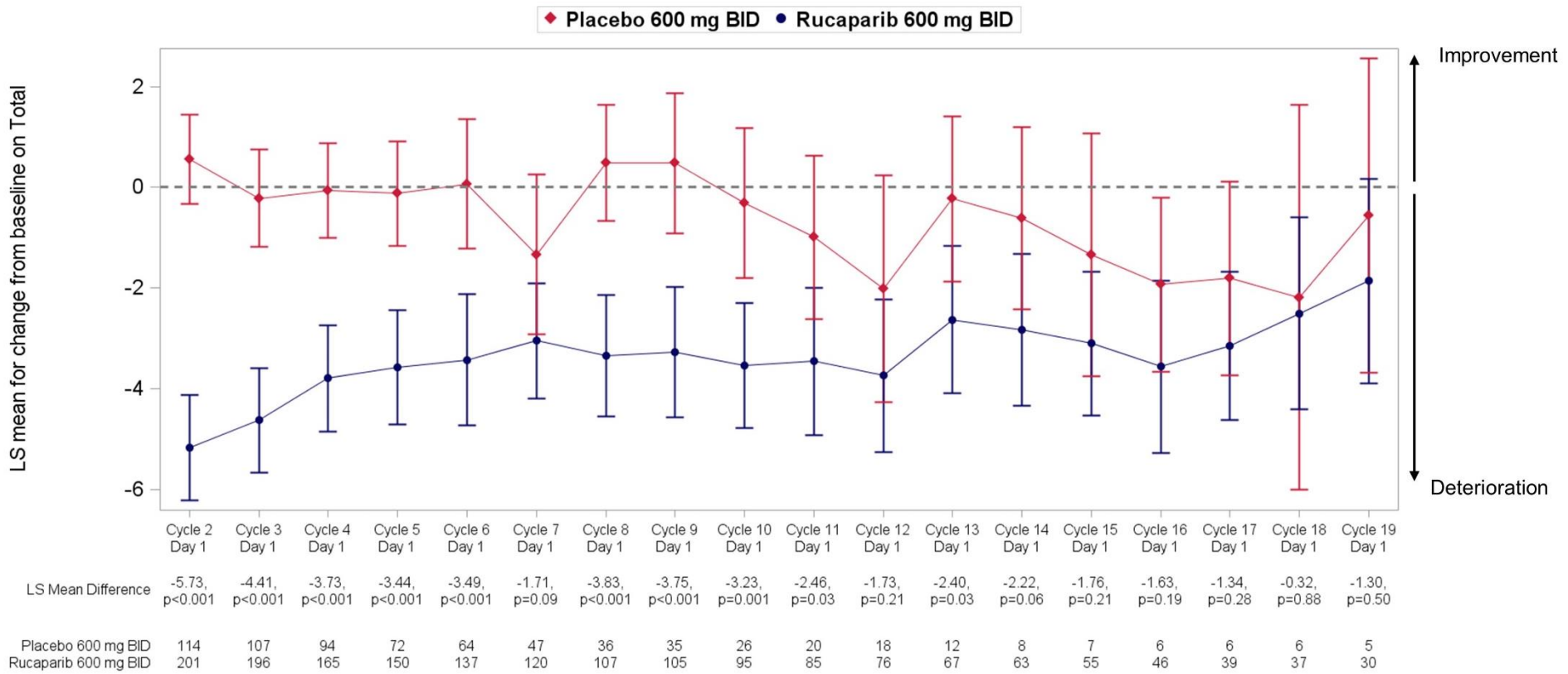
**Figure S2. Mixed Model Repeated Measures Analysis of Change from Baseline in NFOSI-18 DRS-P Score in the HRD Cohort**



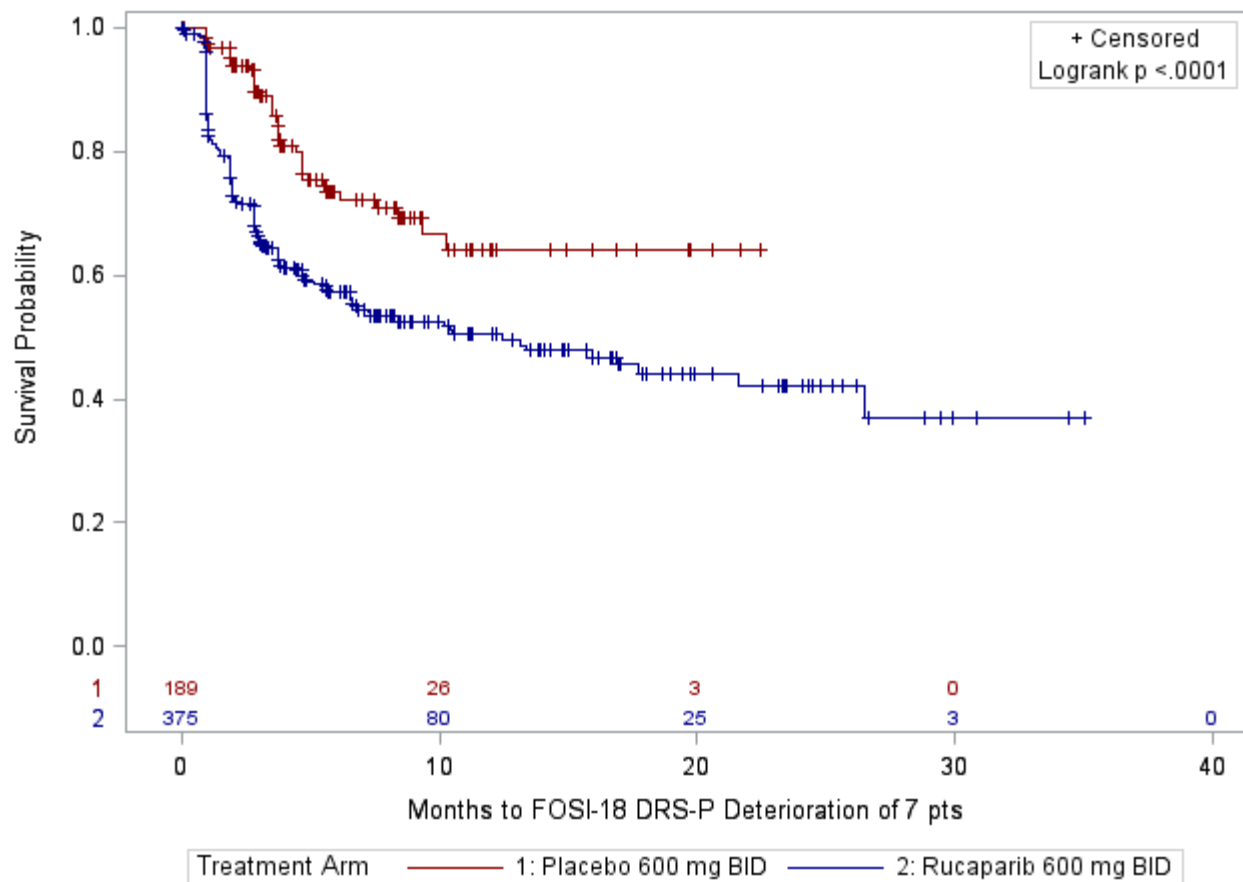
**Figure S3. Mixed Model Repeated Measures Analysis of Change from Baseline in NFOSI-18 Total Score in the BRCA Mutant Cohort**



**Figure S4. Mixed Model Repeated Measures Analysis of Change from Baseline in NFOSI-18 Total Score in the HRD Cohort**



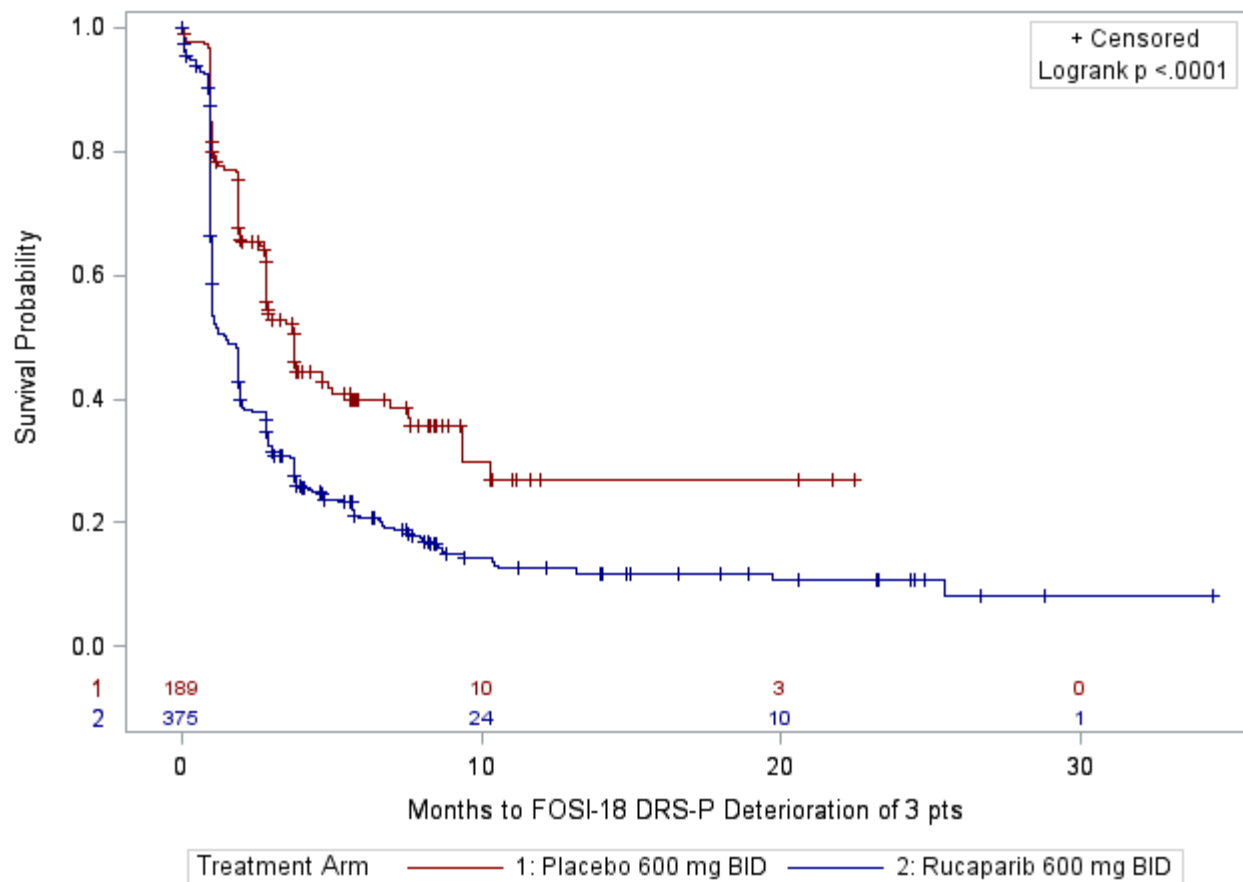
**Figure S5. Kaplan Meier Curves for Time to First Deterioration of 7 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 2.13 (95% confidence interval: 1.51, 2.99)

The median time to first deterioration: rucaparib = 12.4 months (95% CI: 6.6, 21.6); placebo = not estimable due to infrequent events.

**Figure S6. Kaplan Meier Curves for Time to First Deterioration of 3 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the Intention to Treat Cohort**

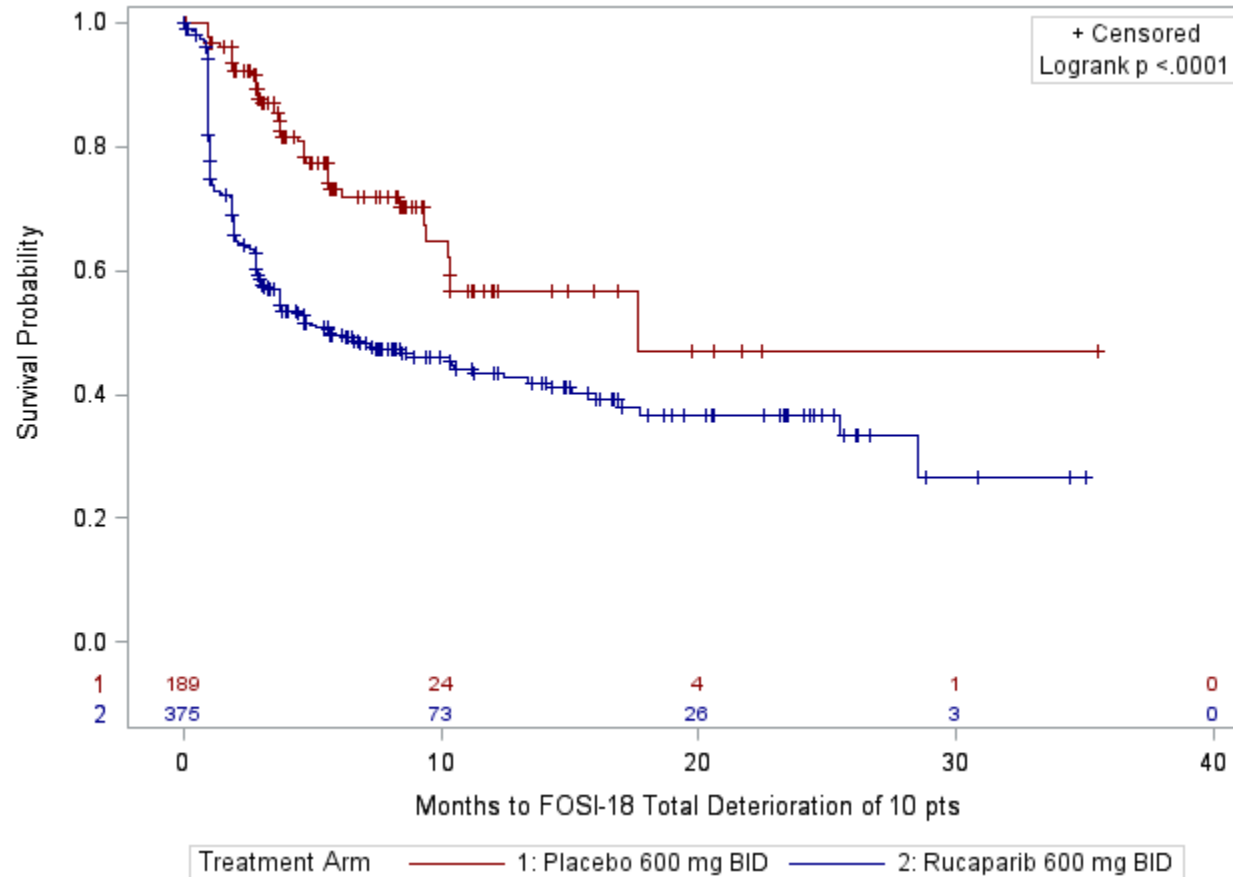


Hazard ratio: 1.82 (95% confidence interval: 1.45, 2.28)

Median time to first deterioration: rucaparib = 1.5 months (95% CI: 1.0, 1.9); placebo = 3.8 months (95% CI: 2.8, 4.9).



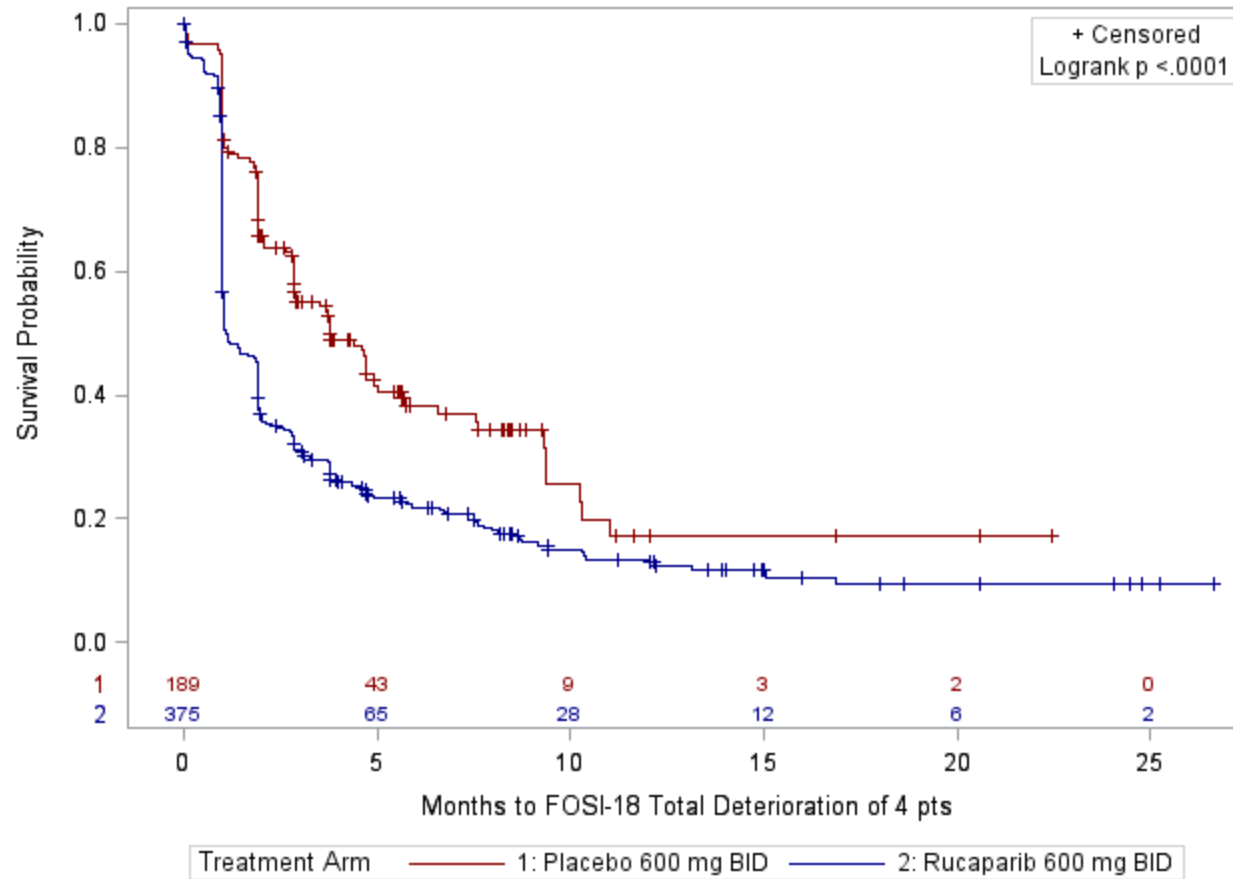
**Figure S7. Kaplan Meier Curves for Time to First Deterioration of 10 points Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 2.41 (95% confidence interval: 1.75, 3.34)

Median time to first deterioration: rucaparib = 5.7 months (95% CI: 3.8, 10.5); placebo = 17.6 months (95% CI: 10.3, not estimable).

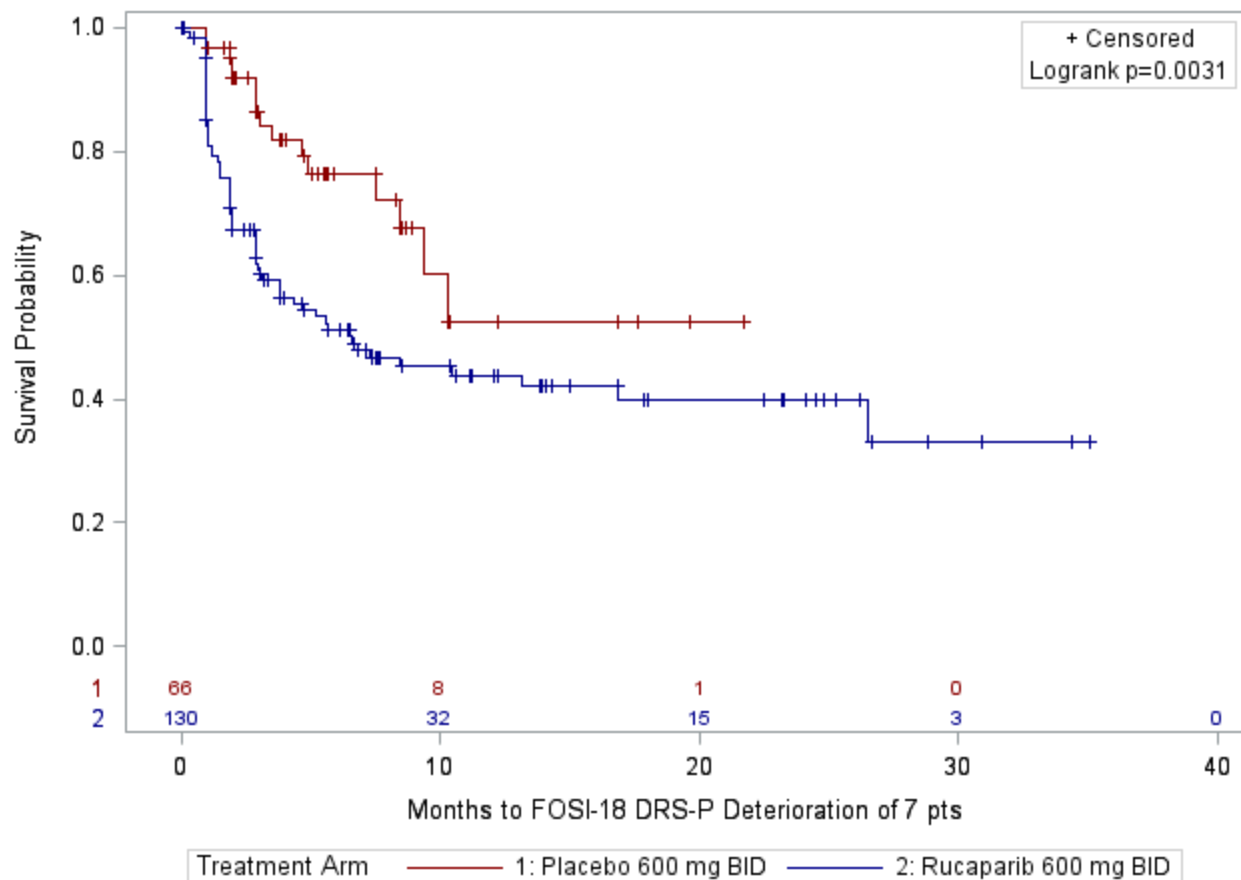
**Figure S8. Kaplan Meier Curves for Time to First Deterioration of 4 points Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 1.81 (95% confidence interval: 1.45, 2.26)

Median time to first deterioration: rucaparib = 1.1 months (95% CI: 1.0, 1.9); placebo = 3.8 months (95% CI: 2.9, 4.9).

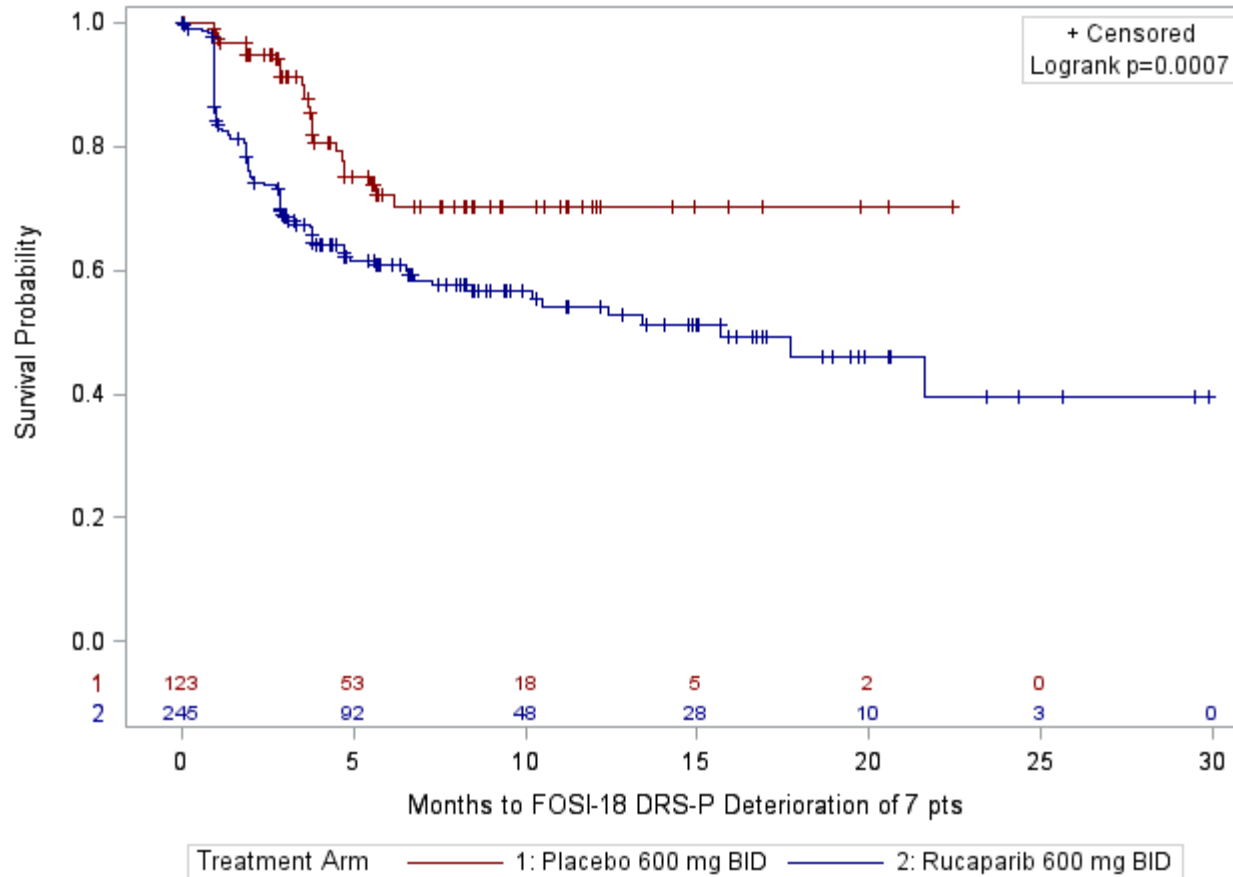
**Figure S9. Kaplan Meier Curves for Time to First Deterioration of 7 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 2.22 (95% confidence interval: 1.28, 3.85)

Median time to first deterioration: rucaparib = 6.6 months (95% CI: 3.1, 16.9); placebo = not estimable.

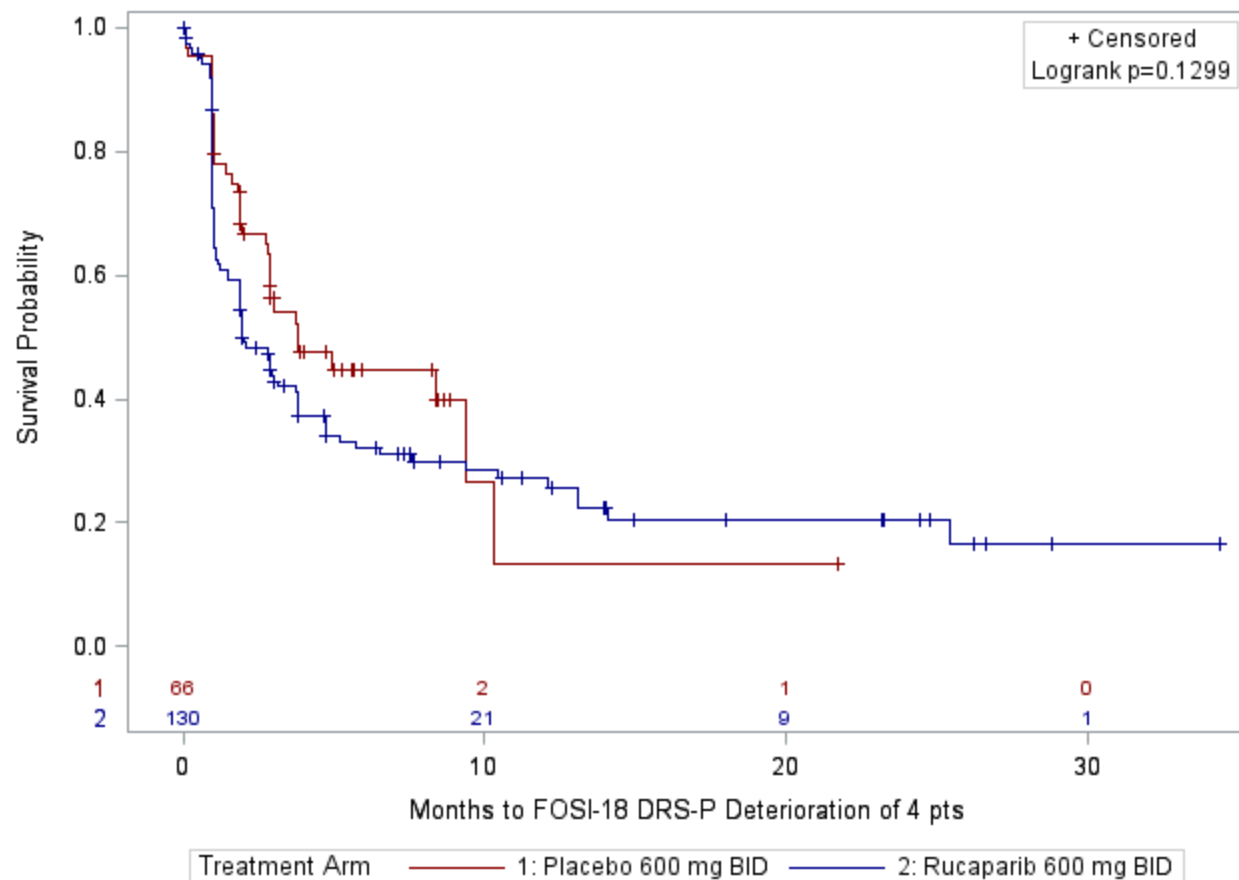
**Figure S10. Kaplan Meier Curves for Time to First Deterioration of 7 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.06 (95% confidence interval: 1.34, 3.19)

Median time to first deterioration: rucaparib = 15.7 months (95% CI: 8.4, NE); placebo = NE.

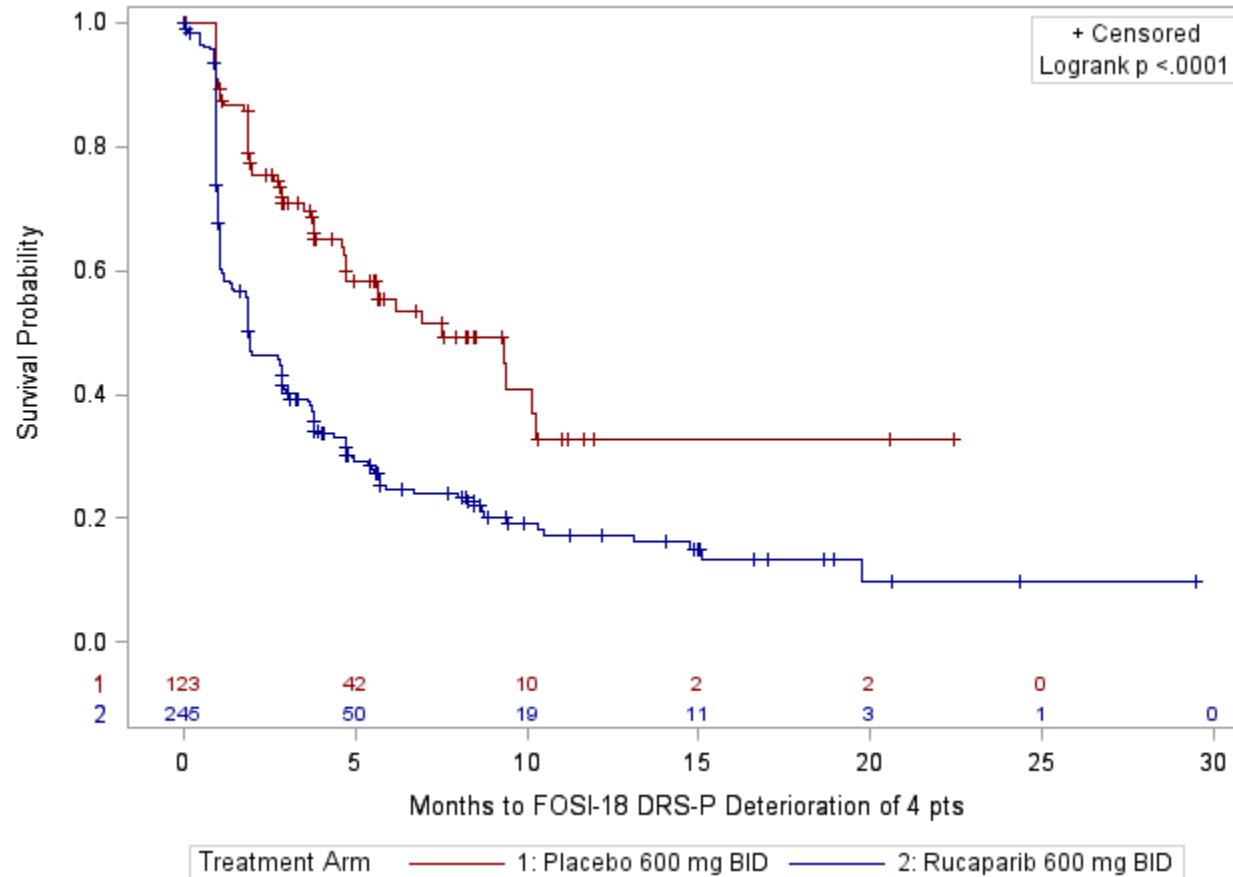
**Figure S11. Kaplan Meier Curves for Time to First Deterioration of 4 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.35 (95% confidence interval: 0.91, 2.00)

Median time to first deterioration: rucaparib = 2.0 months (95% CI: 1.5, 3.7); placebo = 3.8 months (95% CI: 2.8, 10.3).

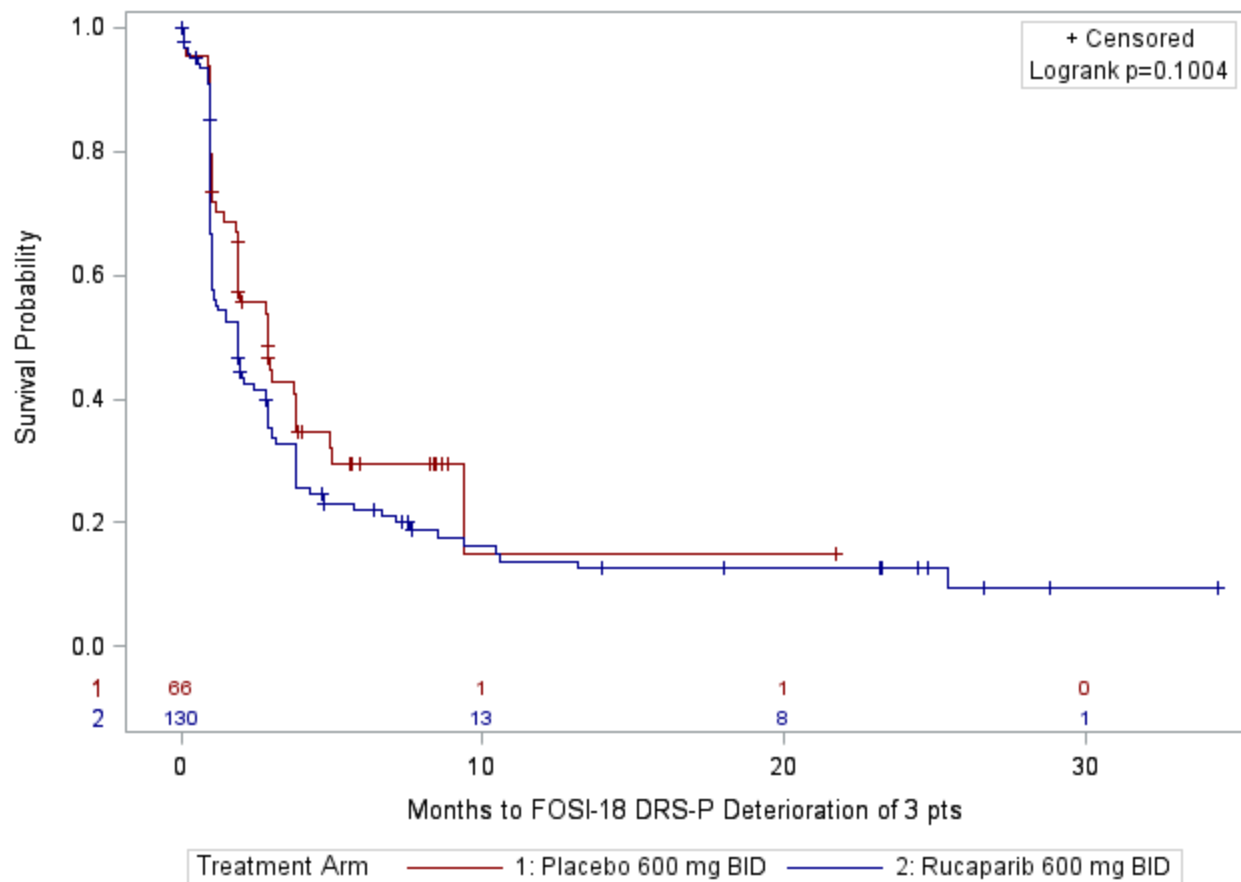
**Figure S12. Kaplan Meier Curves for Time to First Deterioration of 4 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.25 (95% confidence interval: 1.65, 3.06)

Median time to first deterioration: rucaparib = 1.9 months (95% CI: 1.5, 2.8); placebo = 7.5 months (95% CI: 4.7, 10.3).

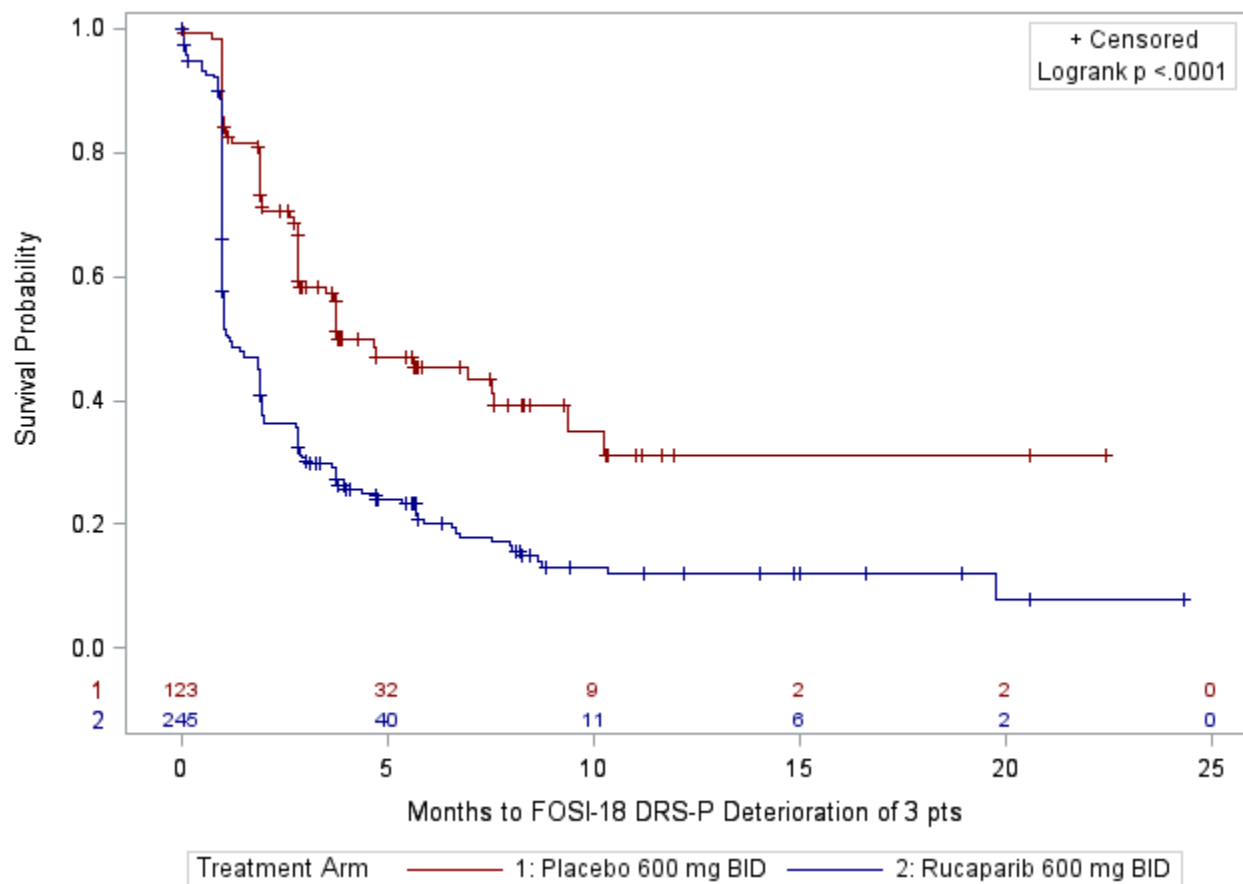
**Figure S13. Kaplan Meier Curves for Time to First Deterioration of 3 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.34 (95% confidence interval: 0.93, 1.92)

Median time to first deterioration: rucaparib = 1.9 months (95% CI: 1.0, 2.8); placebo = 2.8 months (95% CI: 1.9, 3.8).

**Figure S14. Kaplan Meier Curves for Time to First Deterioration of 3 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the HRD Cohort**

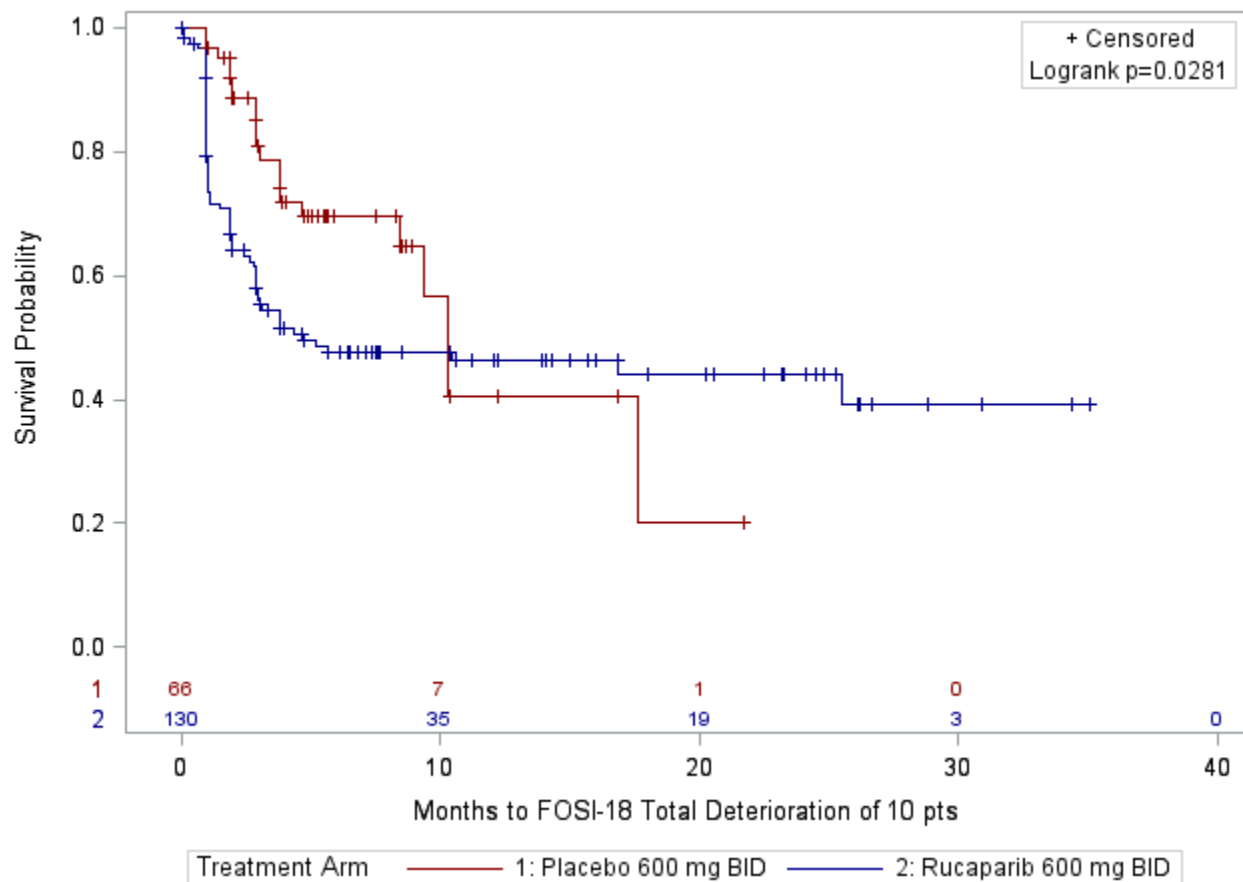


Hazard ratio: 2.16 (95% confidence interval: 1.63, 2.88)

Median time to first deterioration: rucaparib = 1.2 months (95% CI: 1.0, 1.9); placebo = 3.8 months (95% CI: 2.8, 7.6).



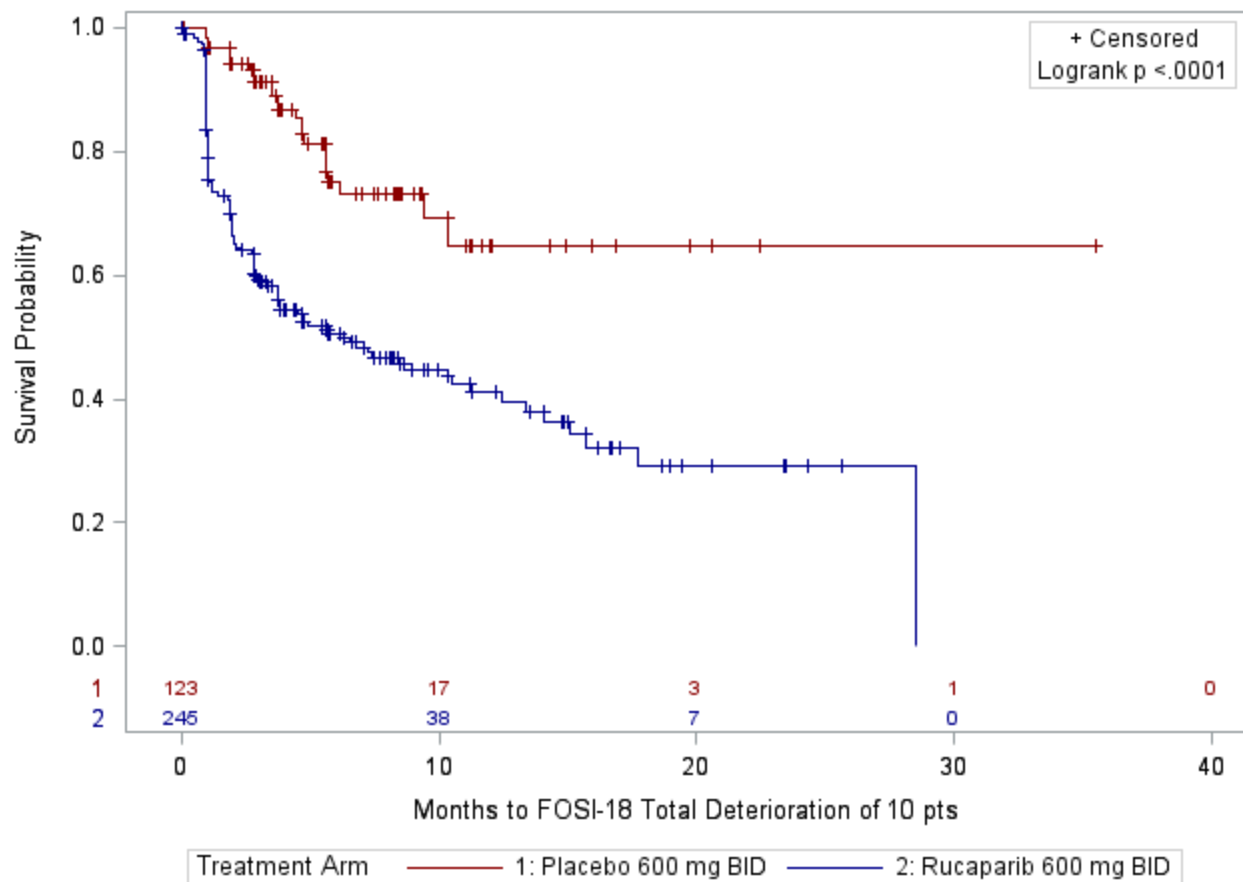
**Figure S15. Kaplan Meier Curves for Time to First Deterioration of 10 points on NFOSI-18 Total Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.72 (95% confidence interval: 1.05, 2.83)

Median time to first deterioration: rucaparib = 4.7 months (95% CI: 2.9, NE); placebo = 10.3 months (95% CI: 8.4, NE).

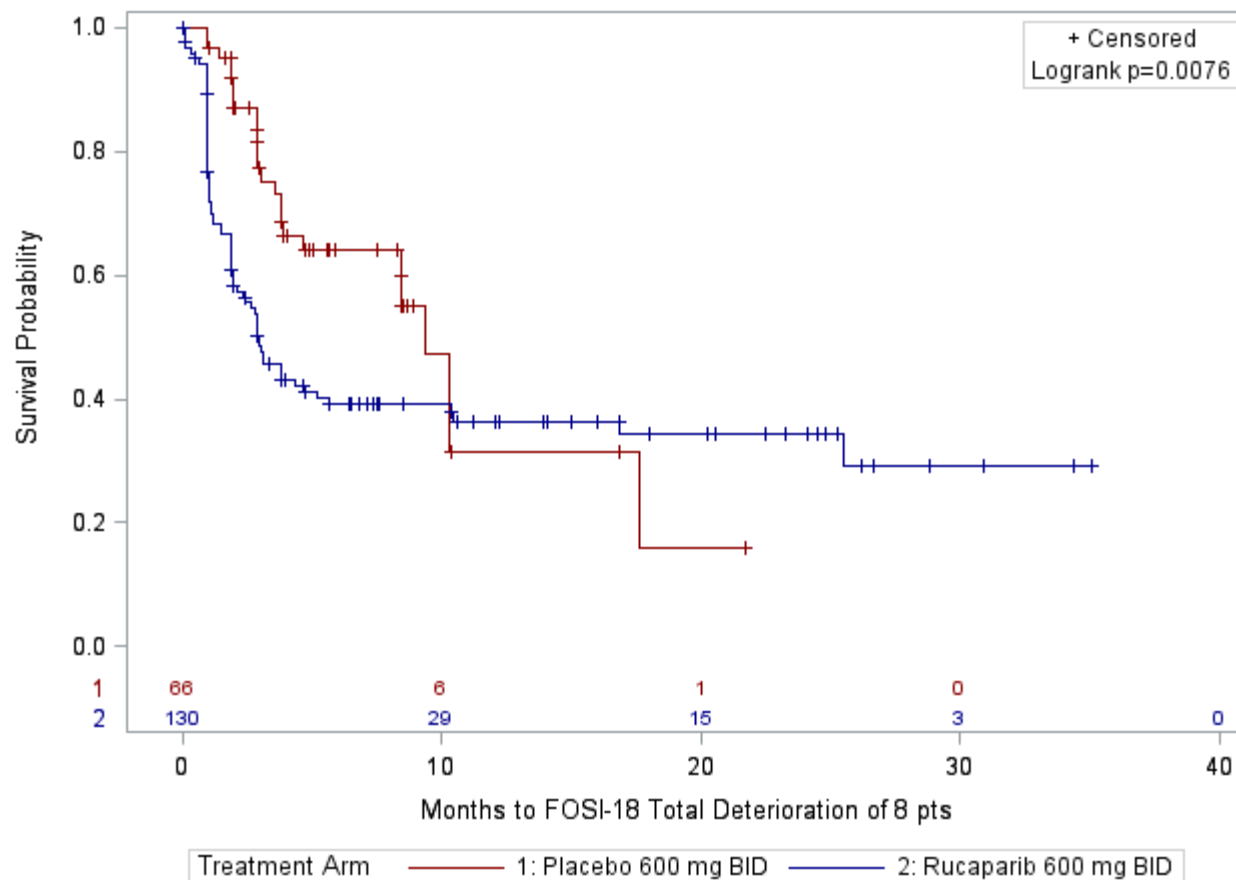
**Figure S16. Kaplan Meier Curves for Time to First Deterioration of 10 points on NFOSI-18 Total Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 3.06 (95% confidence interval: 1.99, 4.71)

Median time to first deterioration: rucaparib = 6.3 months (95% CI: 3.8, 10.5); placebo = NE.

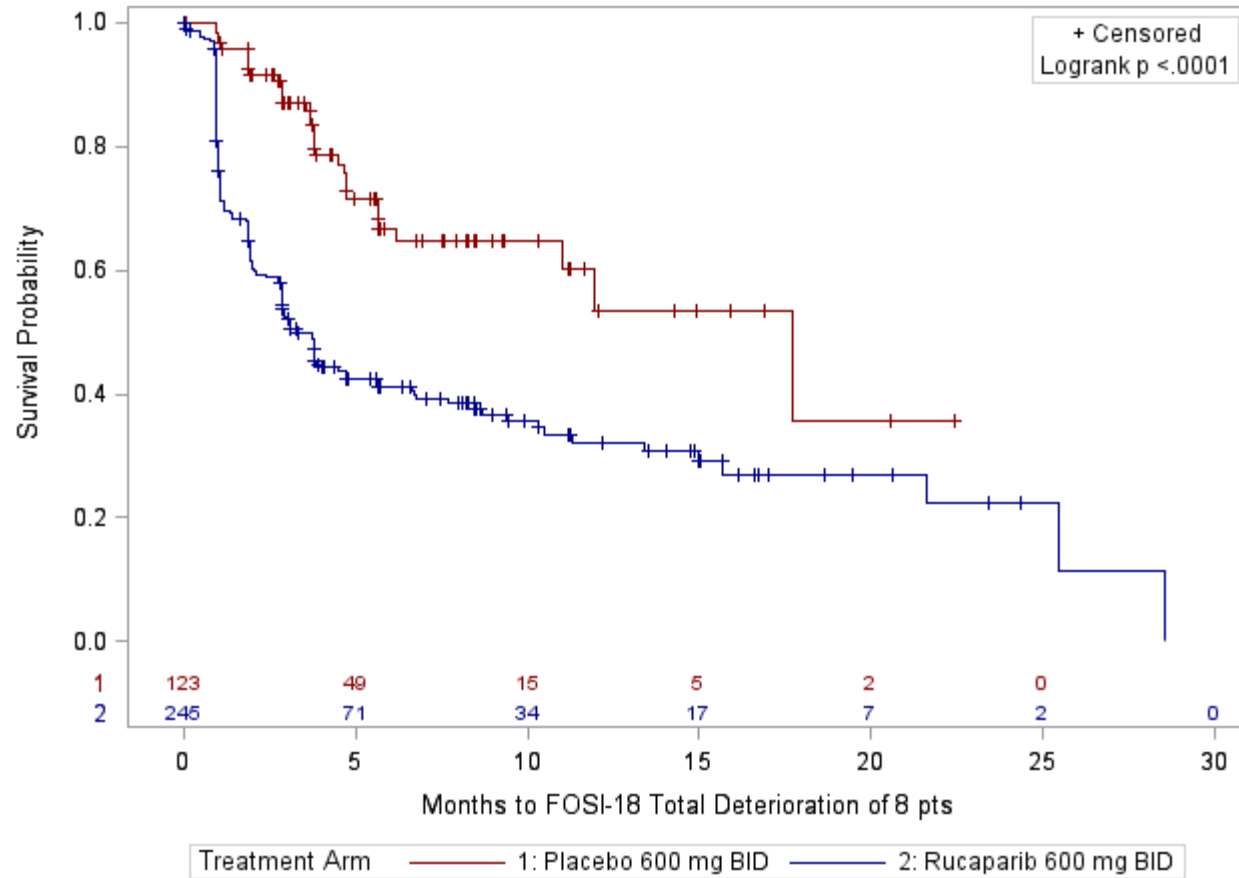
**Figure S17. Kaplan Meier Curves for Time to First Deterioration of 8 points on NFOSI-18 Total Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.83 (95% confidence interval: 1.16, 2.90)

Median time to first deterioration: rucaparib = 2.9 months (95% CI: 1.9, 4.7); placebo = 9.4 months (95% CI: 4.6, 17.6).

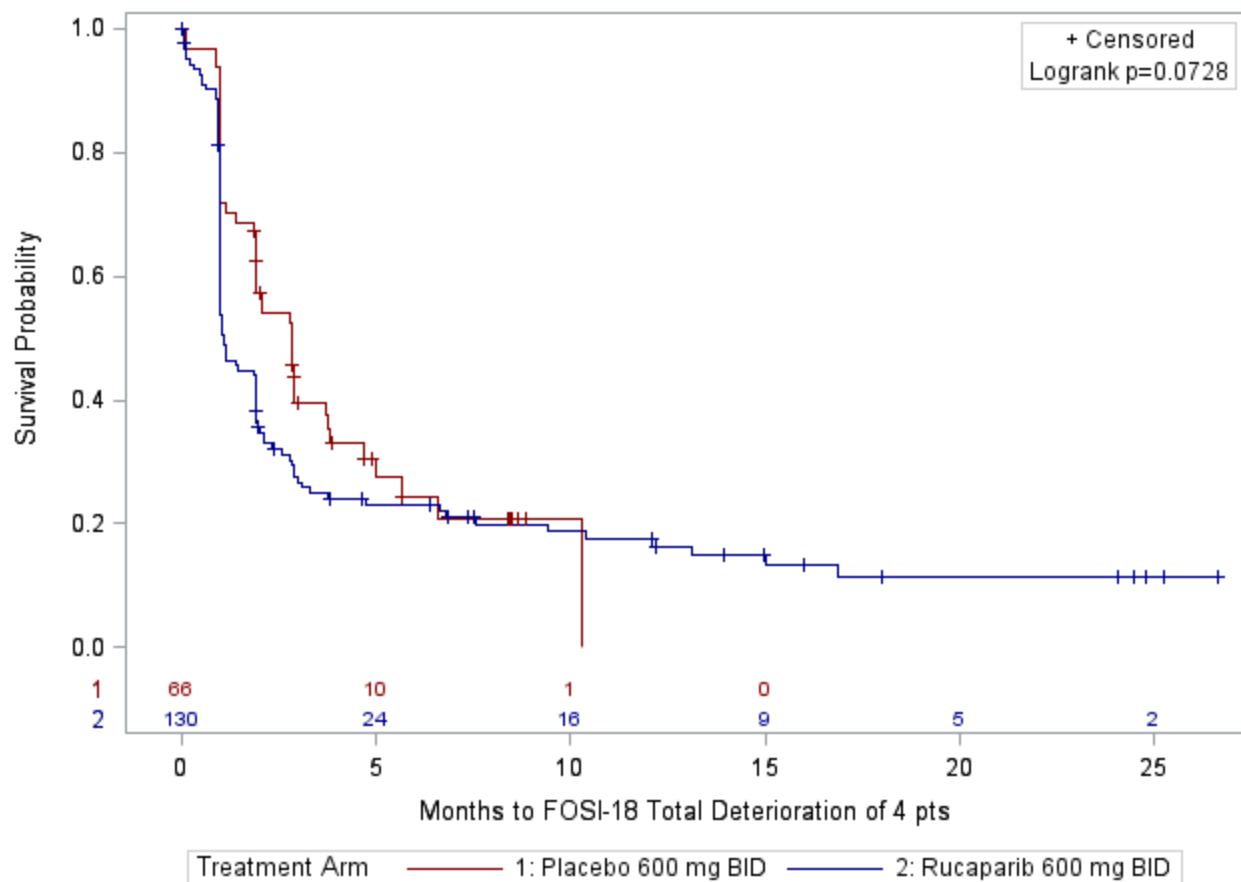
**Figure S18. Kaplan Meier Curves for Time to First Deterioration of 8 points on NFOSI-18 Total Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.68 (95% confidence interval: 1.84, 3.90)

Median time to first deterioration: rucaparib = 3.3 months (95% CI: 2.8, 4.7); placebo = 17.7 months (95% CI: 11.0, NE).

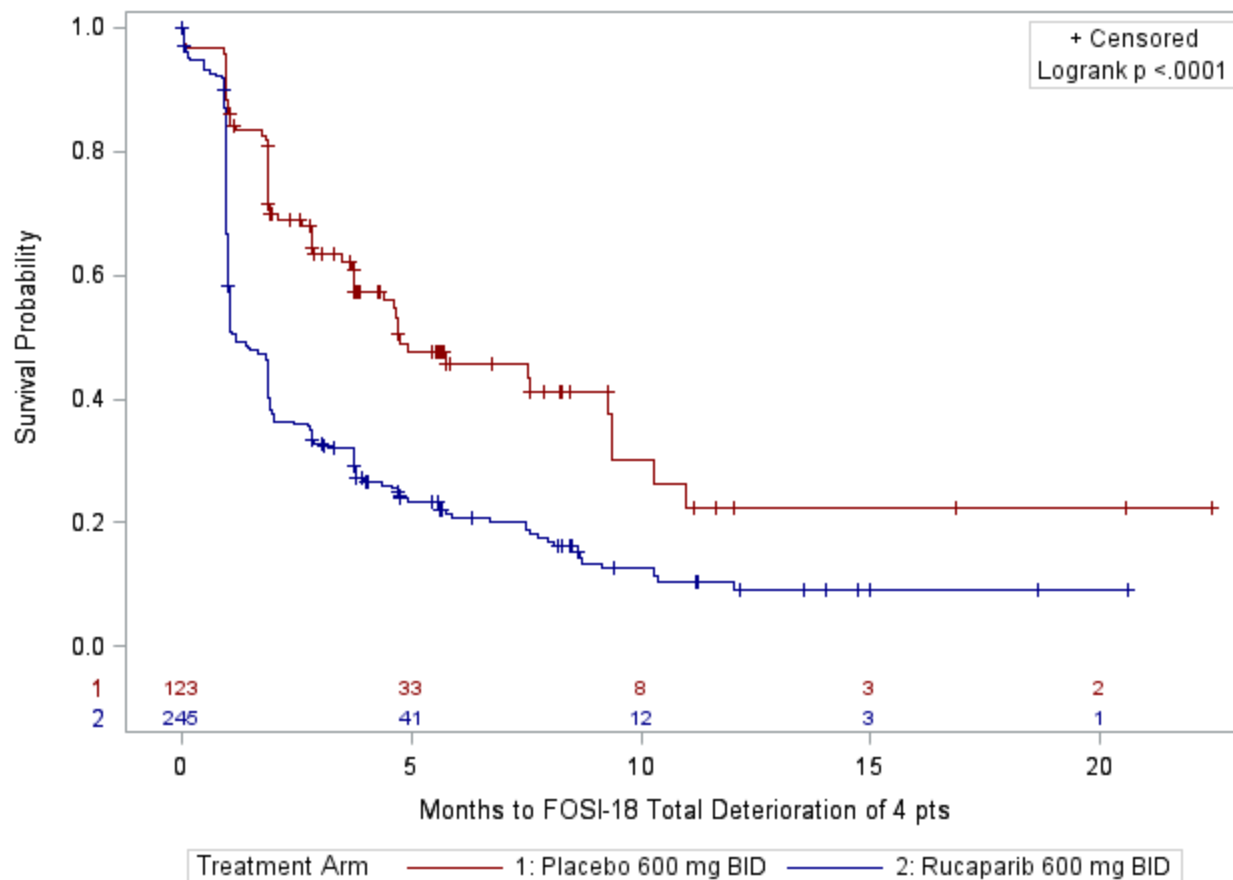
**Figure S19. Kaplan Meier Curves for Time to First Deterioration of 4 points on NFOSI-18 Total Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.37 (95% confidence interval: 0.96, 1.96)

Median time to first deterioration: rucaparib = 1.1 months (95% CI: 1.0, 1.9); placebo = 2.8 months (95% CI: 1.9, 3.7).

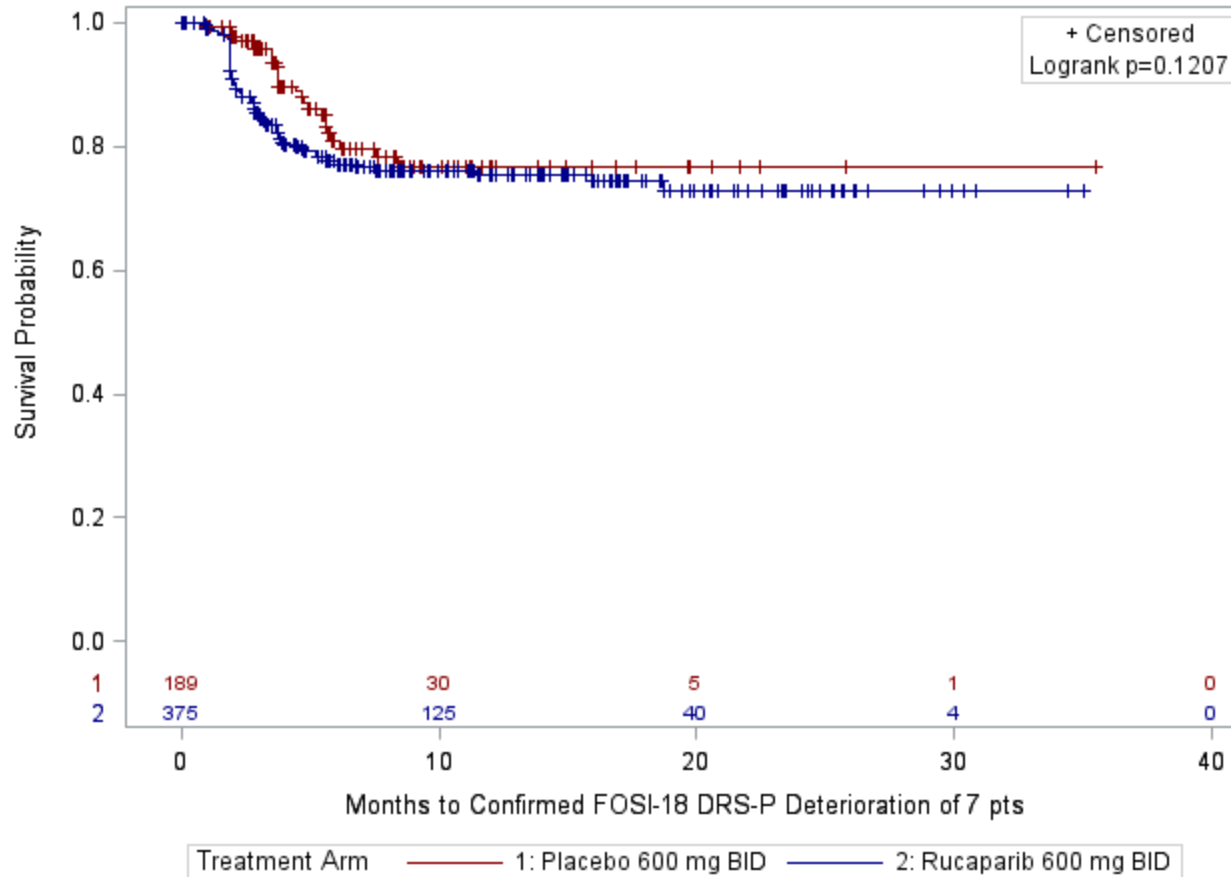
**Figure S20. Kaplan Meier Curves for Time to First Deterioration of 4 points on NFOSI-18 Total Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.17 (95% confidence interval: 1.63, 2.89)

Median time to first deterioration: rucaparib = 1.2 months (95% CI: 1.0, 1.9); placebo = 4.7 months (95% CI: 3.8, 9.3).

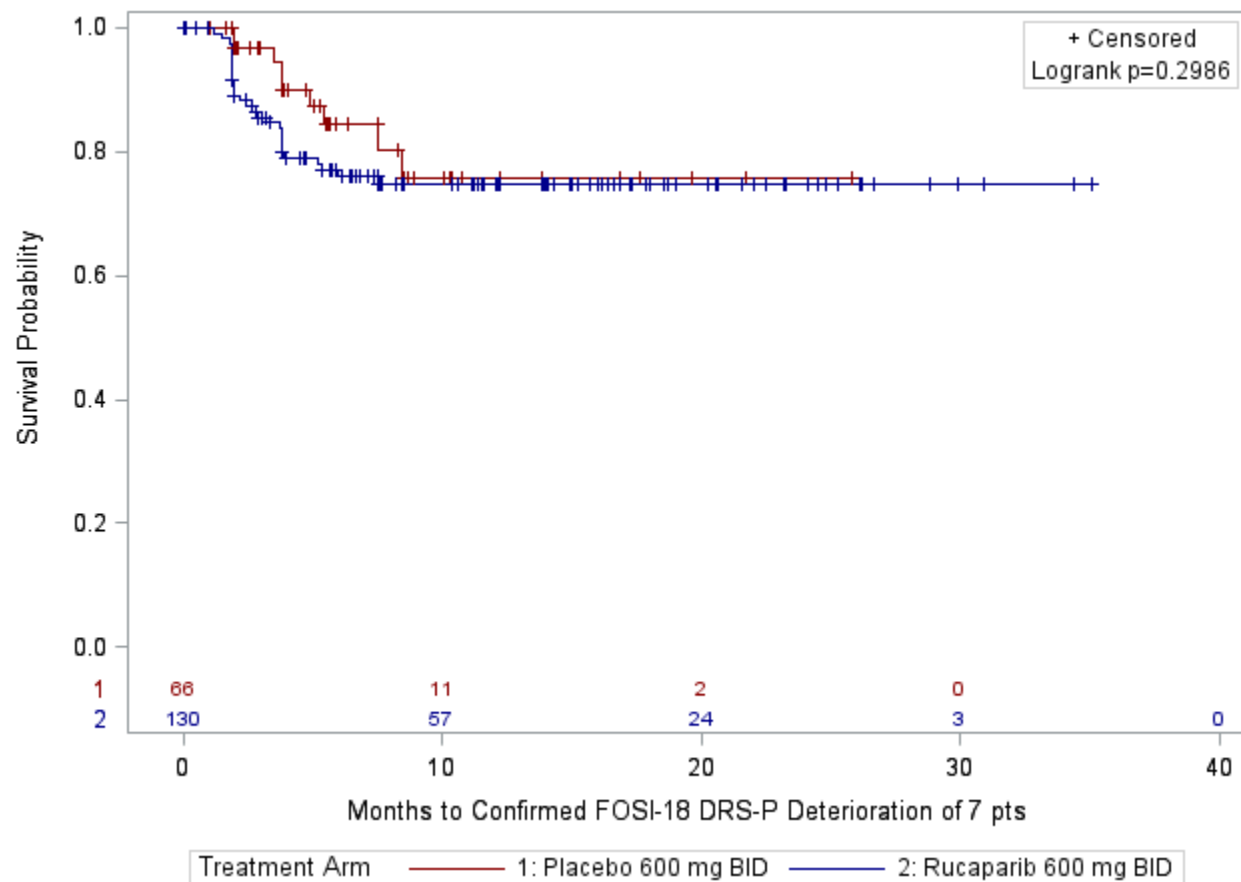
**Figure S21. Kaplan Meier Curves for Time to Confirmed Deterioration of 7 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 1.41 (95% confidence interval: 0.91, 2.19)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.

**Figure S22. Kaplan Meier Curves for Time to Confirmed Deterioration of 7 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the BRCA Mutant Cohort**

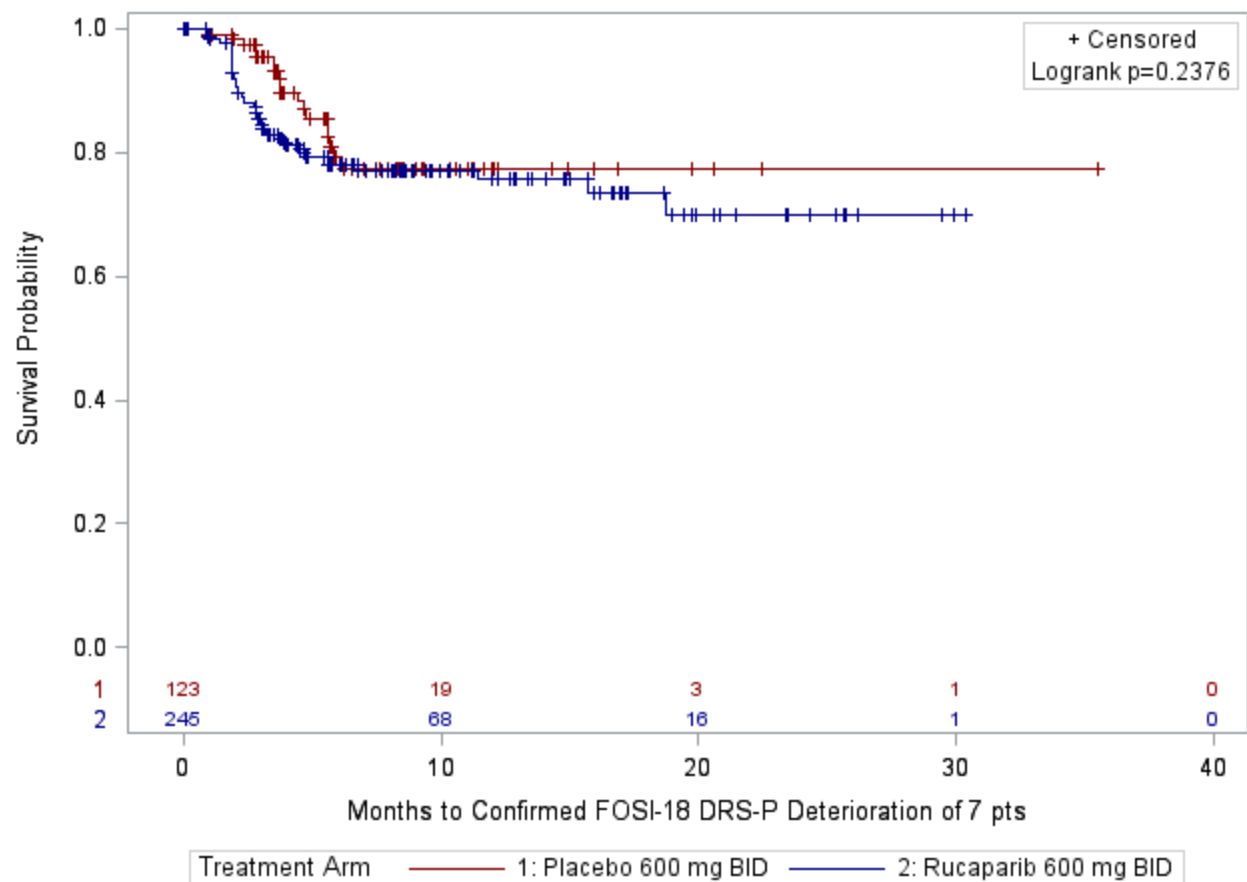


Hazard ratio: 1.48 (95% confidence interval: 0.70, 3.15)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.



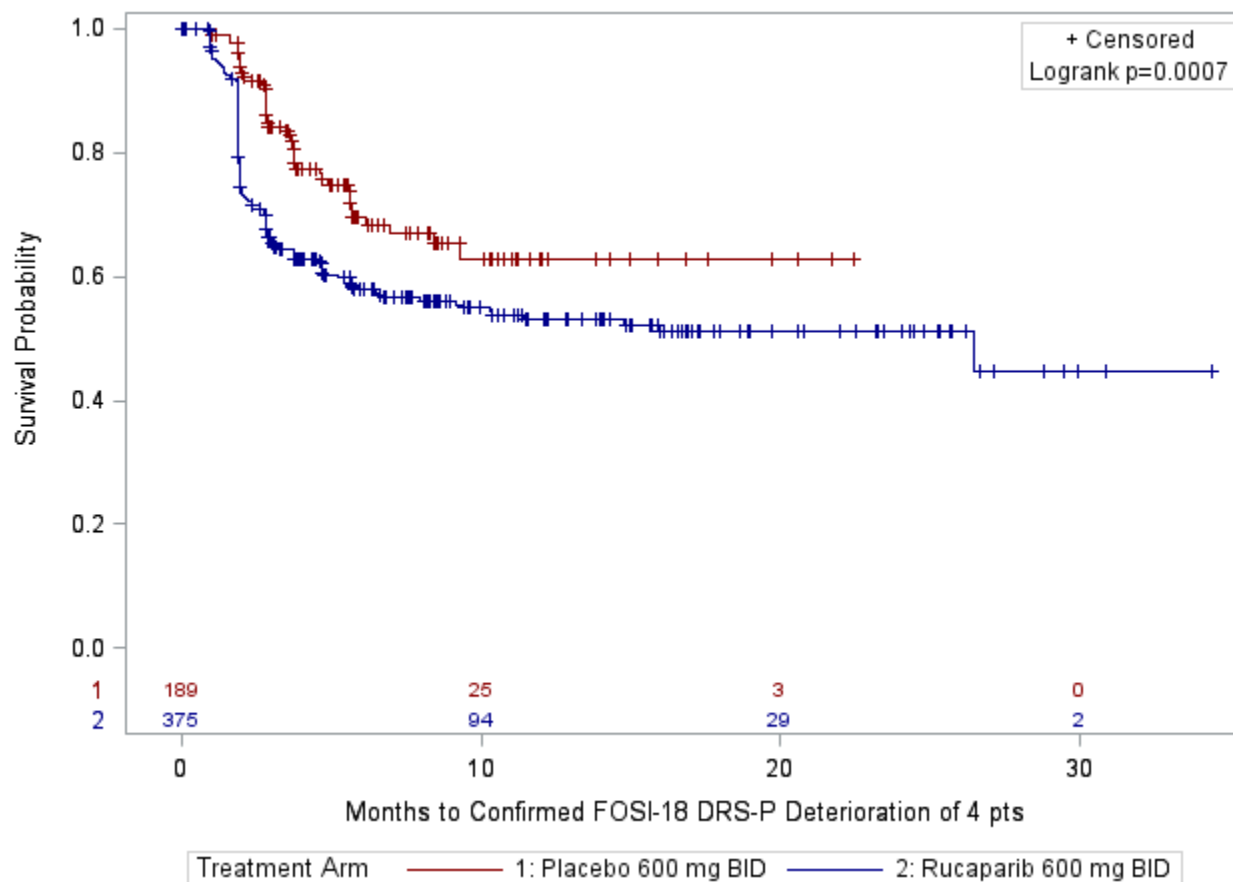
**Figure S23. Kaplan Meier Curves for Time to Confirmed Deterioration of 7 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 1.38 (95% confidence interval: 0.80, 2.38)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.

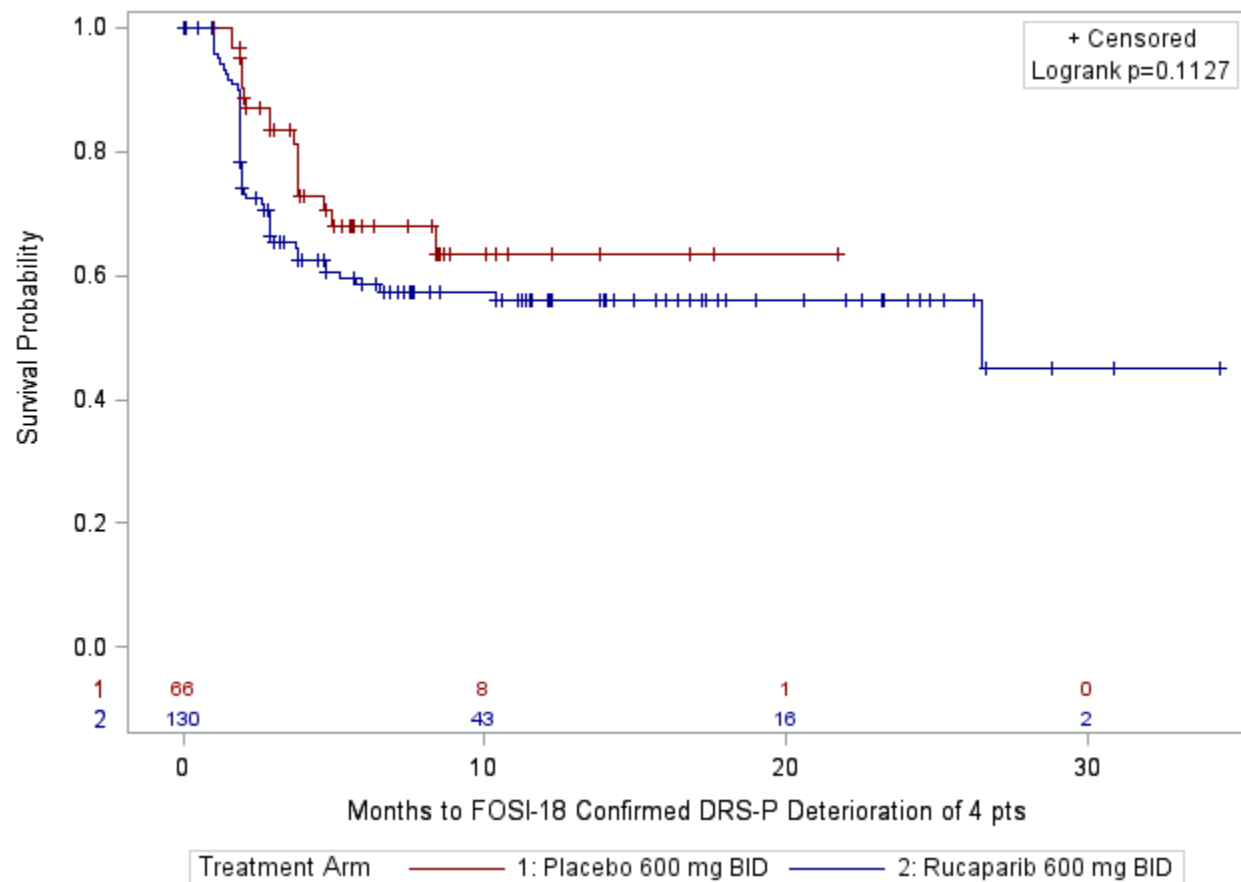
**Figure S24. Kaplan Meier Curves for Time to Confirmed Deterioration of 4 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 1.73 (95% confidence interval: 1.25, 2.40)

Median time to first deterioration: rucaparib = 26.5 months (95% CI: 9.17 months, not estimable); placebo = not estimable.

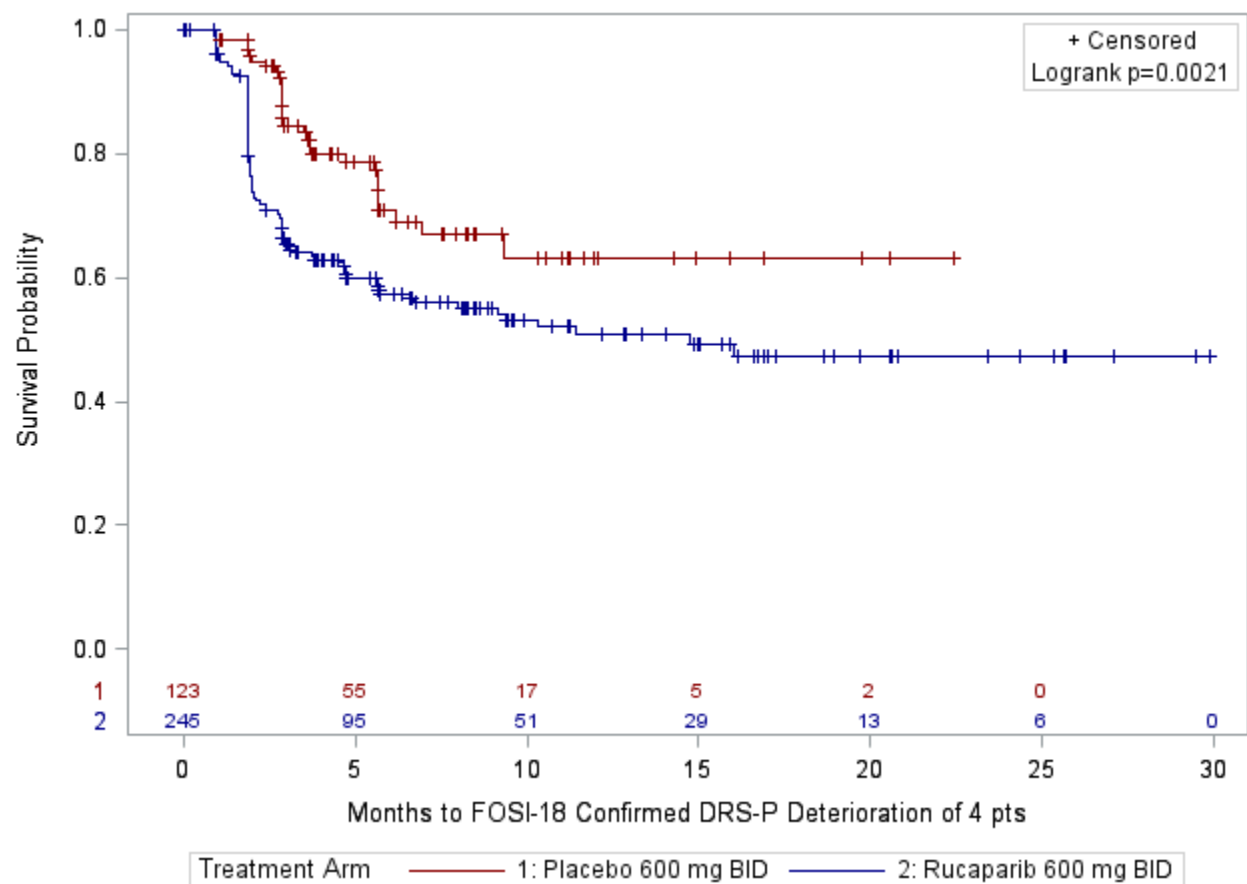
**Figure S25. Kaplan Meier Curves for Time to Confirmed Deterioration of 4 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.54 (95% confidence interval: 0.90, 2.64)

Median time to first deterioration: rucaparib = 26.5 months (95% CI: 5.2 months, not estimable); placebo = not estimable.

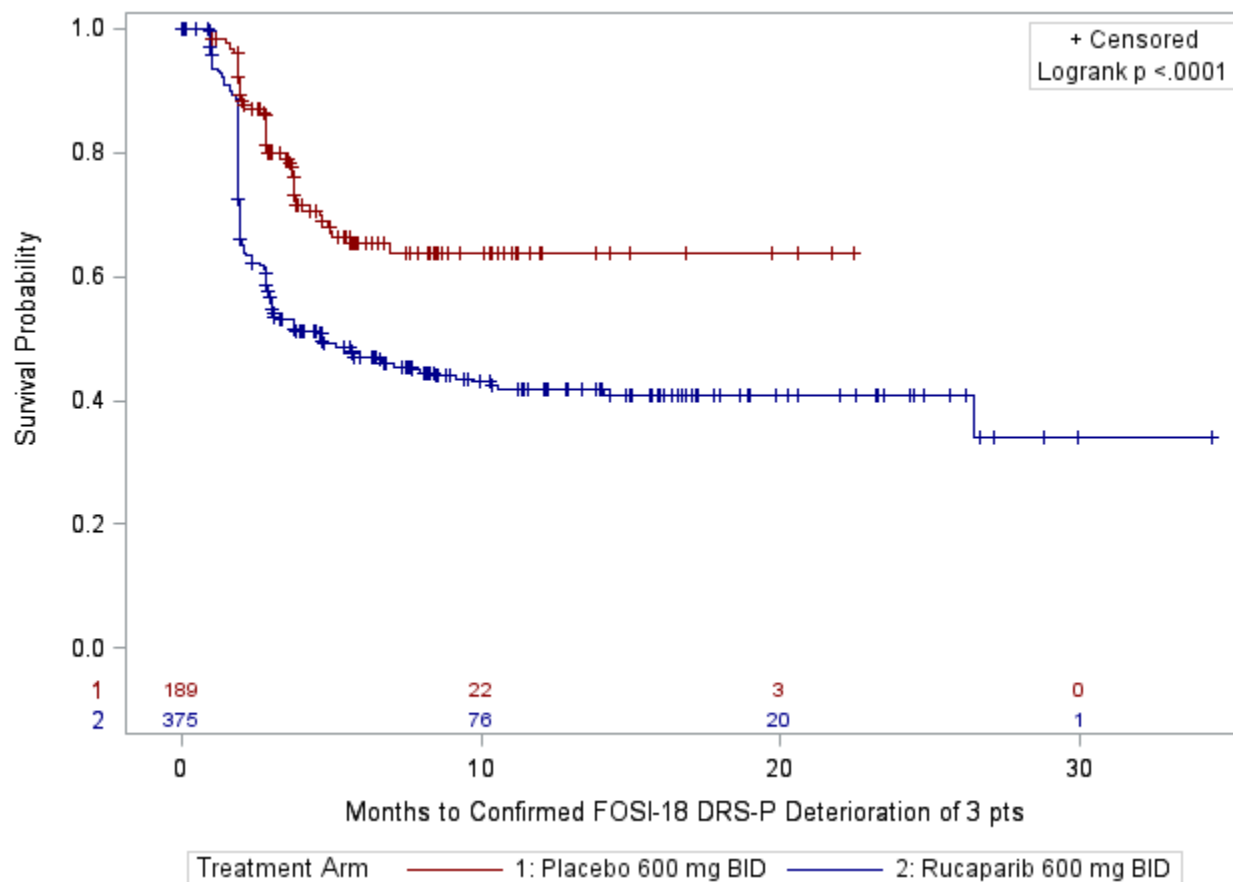
**Figure S26. Kaplan Meier Curves for Time to Confirmed Deterioration of 4 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 1.87 (95% confidence interval: 1.24, 2.81)

Median time to first deterioration: rucaparib = 14.7 months (95% CI: 6.6 months, not estimable); placebo = not estimable.

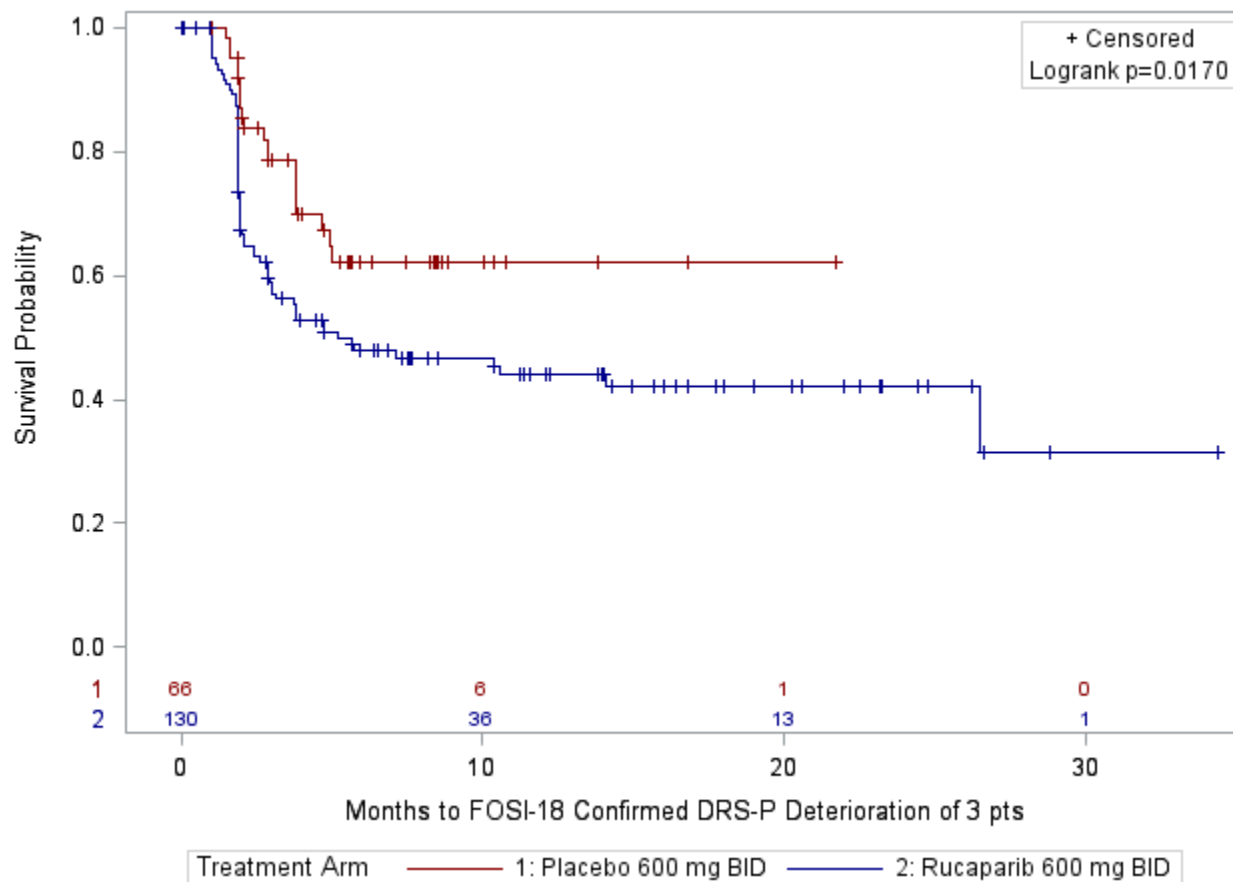
**Figure S27. Kaplan Meier Curves for Time to Confirmed Deterioration of 3 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 2.07 (95% confidence interval: 1.53, 2.81)

Median time to first deterioration: rucaparib = 4.7 months (95% CI: 3.0 months, 8.0 months); placebo = not estimable.

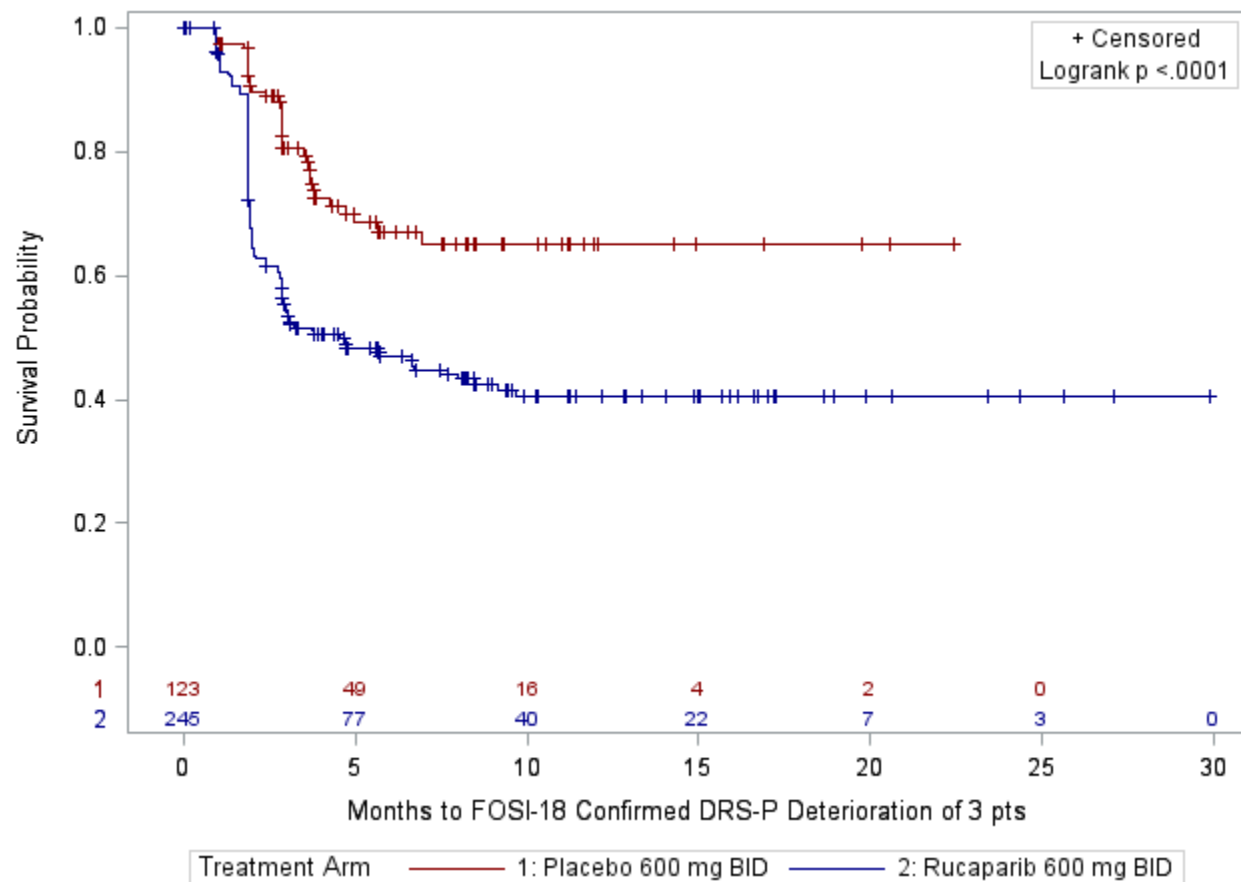
**Figure S28. Kaplan Meier Curves for Time to Confirmed Deterioration of 3 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.83 (95% confidence interval: 1.10, 3.00)

Median time to first deterioration: rucaparib = 5.2 months (95% CI: 2.9 months, not estimable); placebo = not estimable.

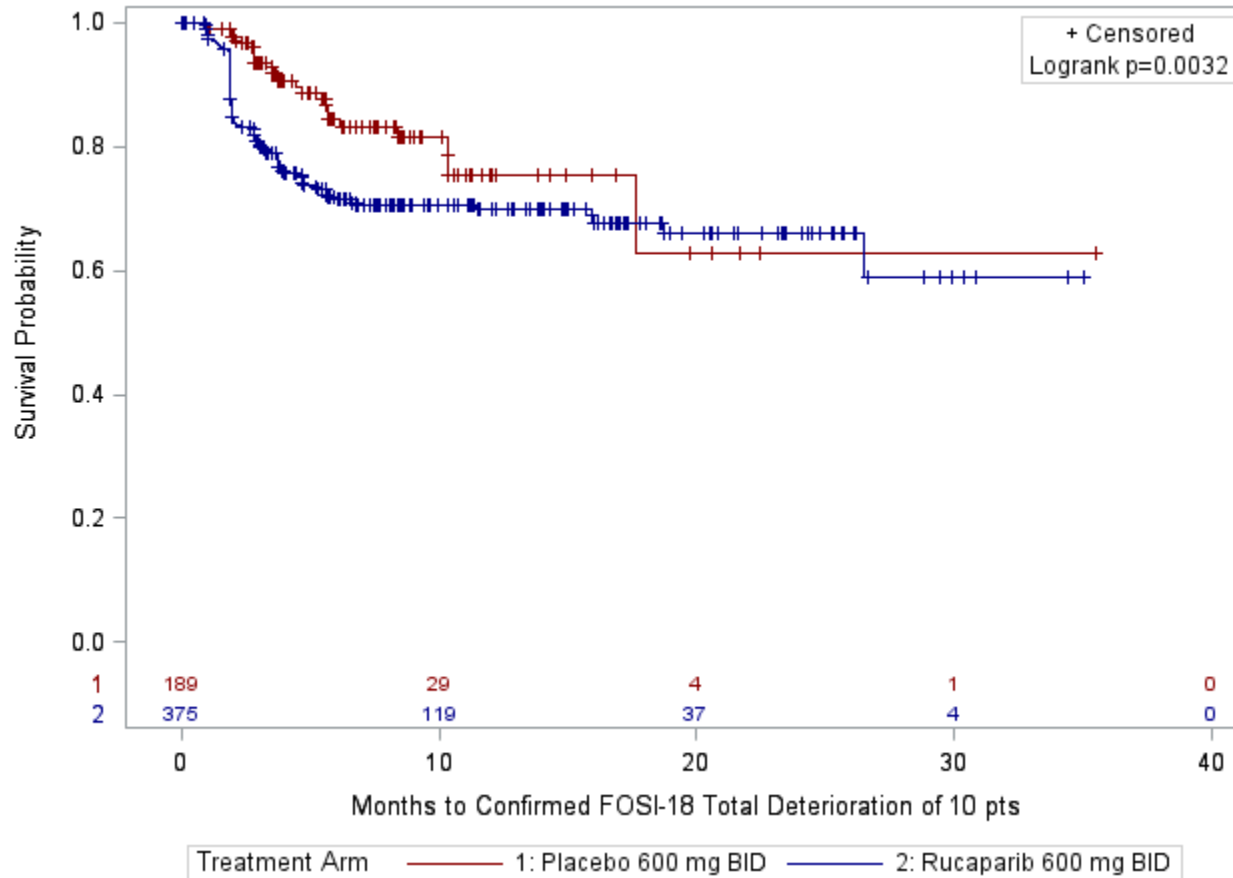
**Figure S29. Kaplan Meier Curves for Time to Confirmed Deterioration of 3 points on NFOSI-18 DRS-P Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.23 (95% confidence interval: 1.52, 3.26)

Median time to first deterioration: rucaparib = 4.7 months (95% CI: 2.9 months, 8.5 months); placebo = not estimable.

**Figure S30. Kaplan Meier Curves for Time to Confirmed Deterioration of 10 points on NFOSI-18 Total Stratified by Treatment Arm in the Intention to Treat Cohort**

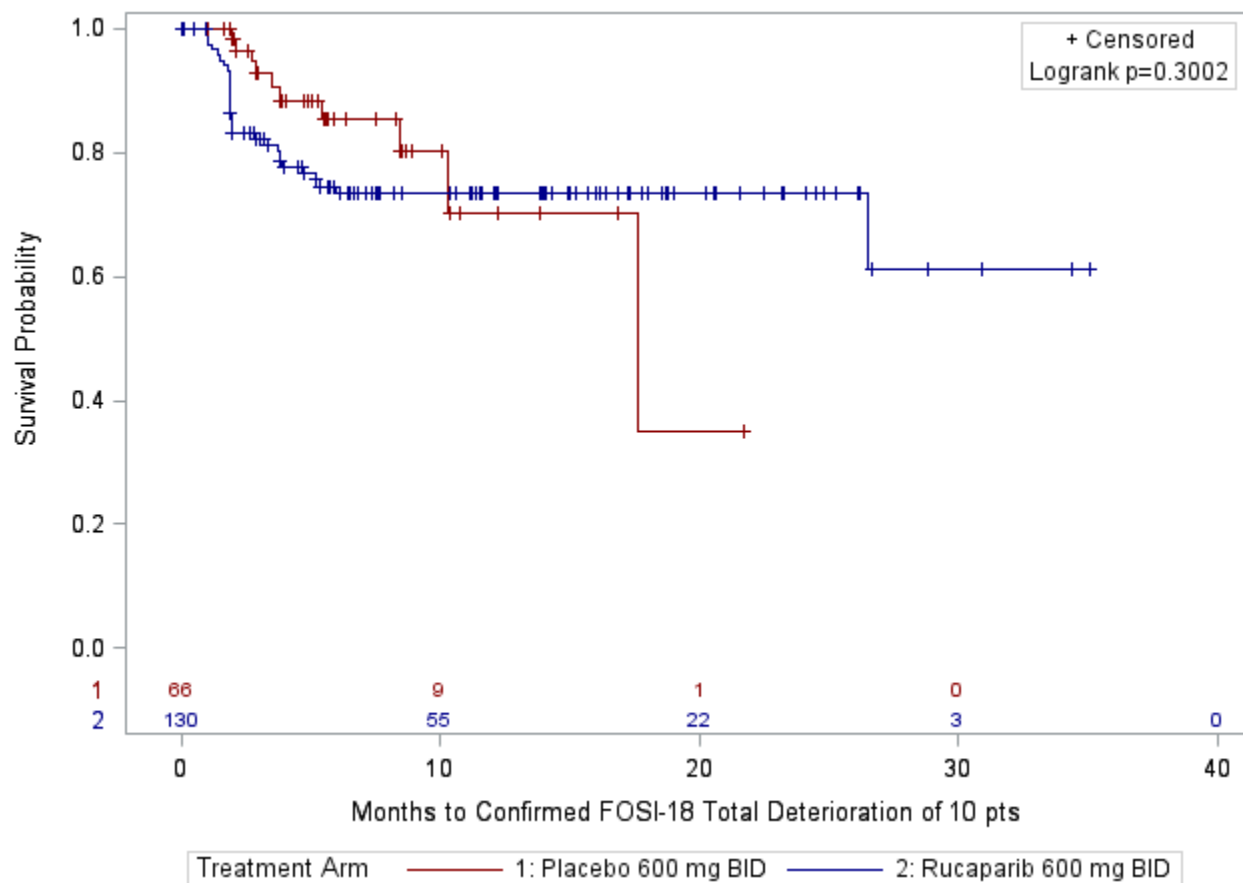


Hazard ratio: 1.89 (95% confidence interval: 1.23, 2.93)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.



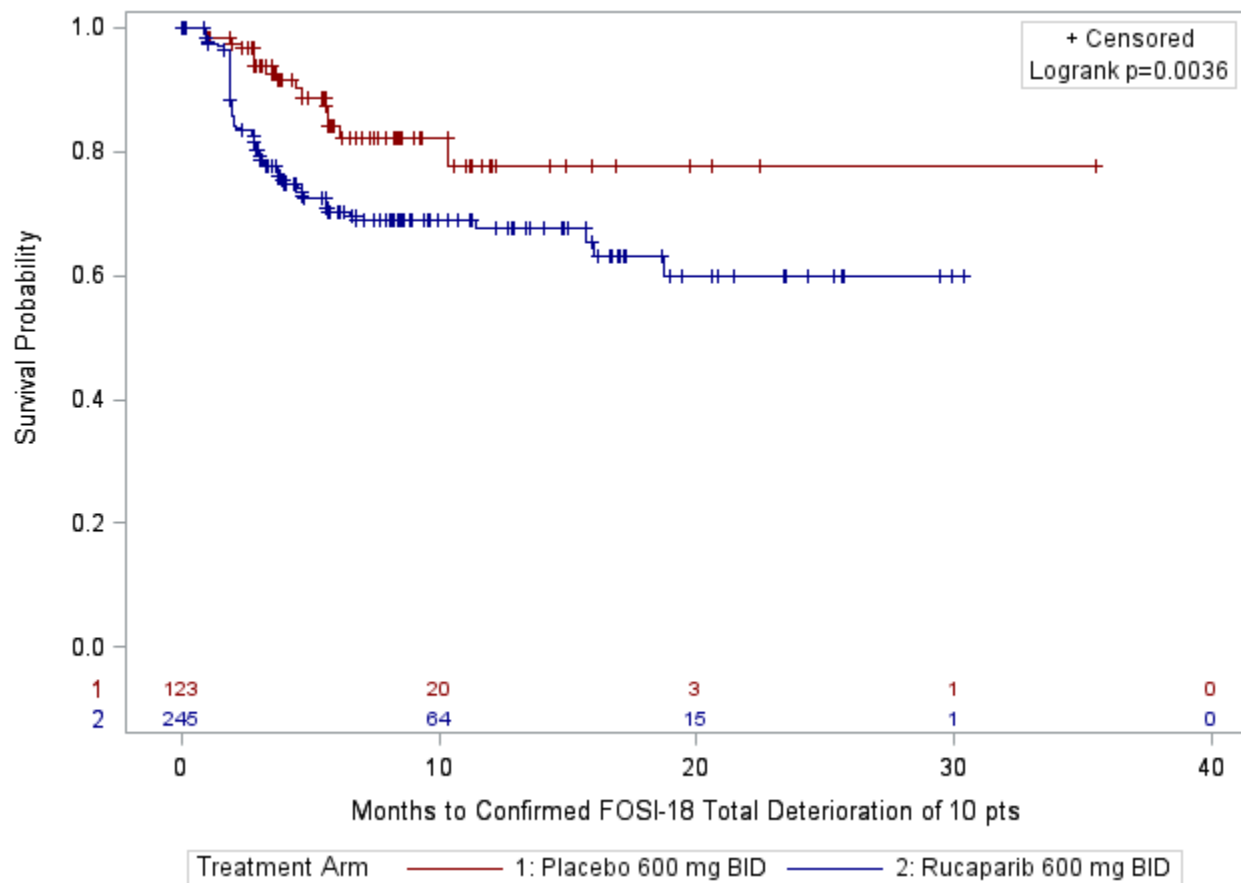
**Figure S31. Kaplan Meier Curves for Time to Confirmed Deterioration of 10 points on NFOSI-18 Total Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.46 (95% confidence interval: 0.71, 3.00)

Median time to first deterioration: rucaparib = not estimable; placebo = 17.6 months (95% CI: 10.3 months, not estimable).

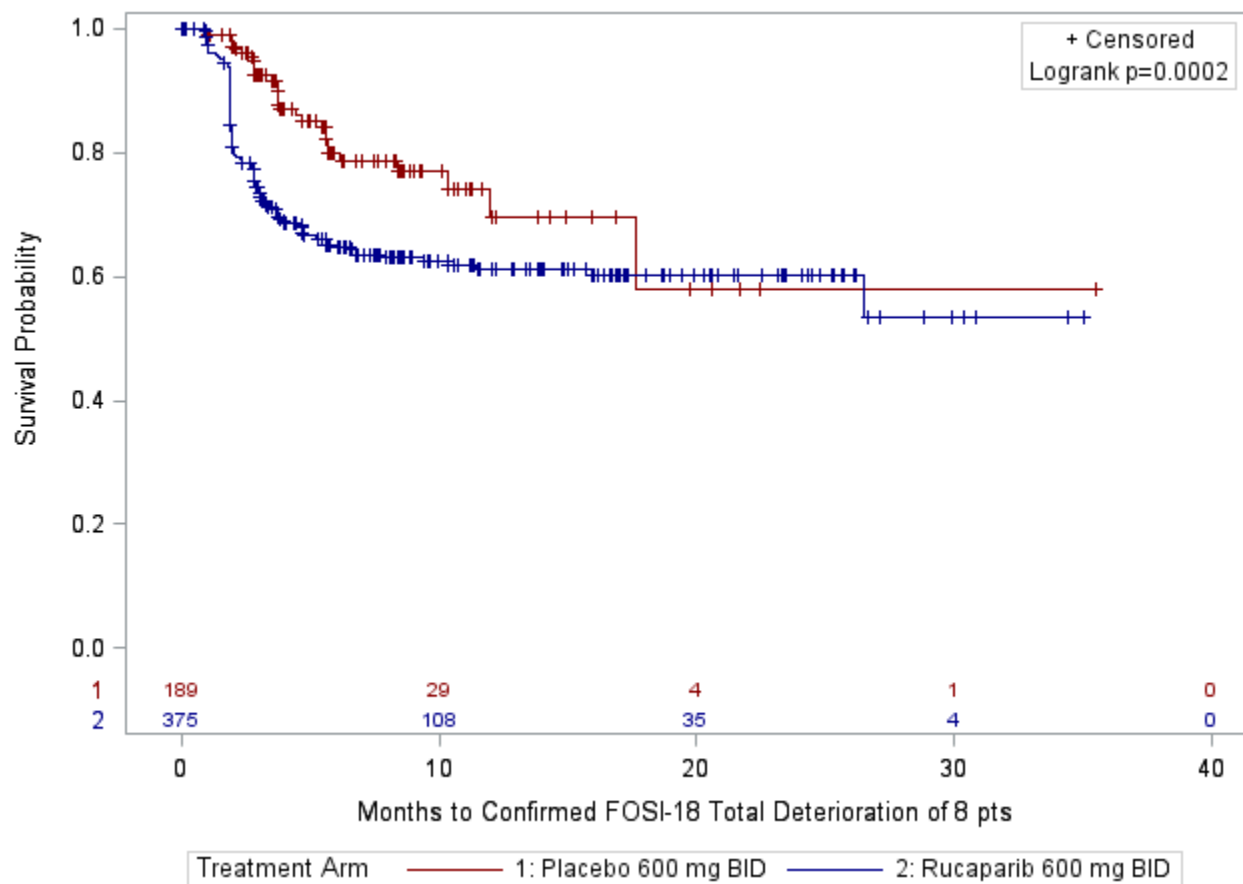
**Figure S32. Kaplan Meier Curves for Time to Confirmed Deterioration of 10 points on NFOSI-18 Total Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.19 (95% confidence interval: 1.27, 3.79)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.

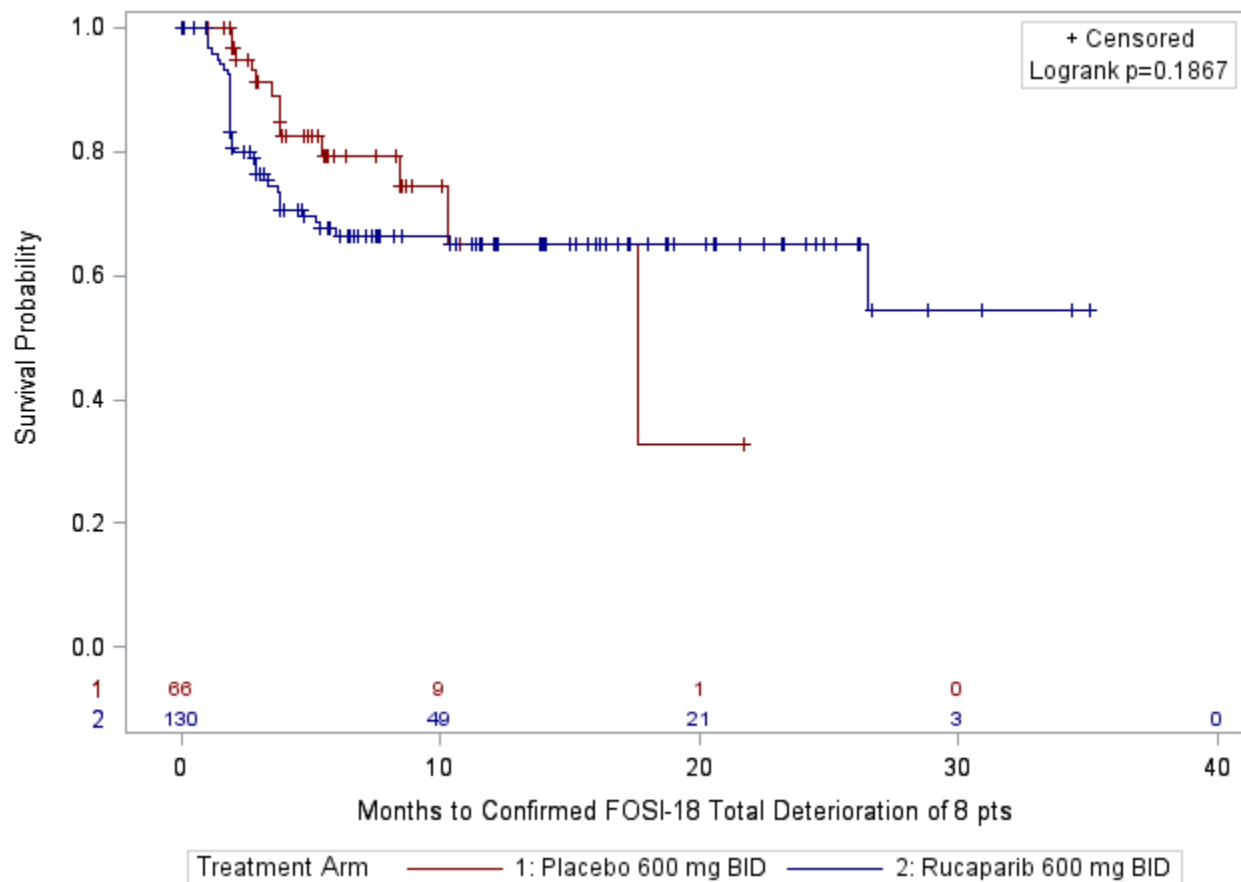
**Figure S33. Kaplan Meier Curves for Time to Confirmed Deterioration of 8 points on NFOSI-18 Total Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 2.05 (95% confidence interval: 1.39, 3.03)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.

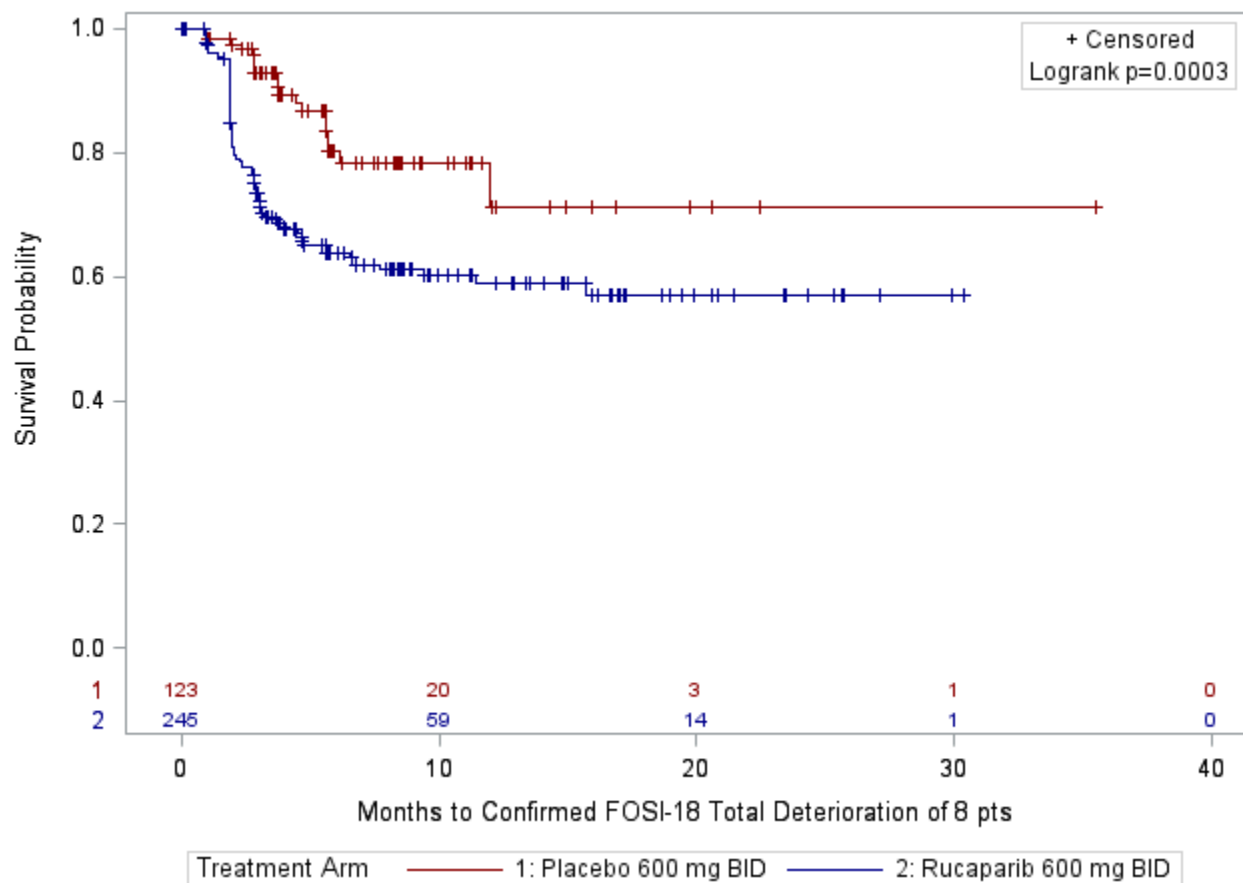
**Figure S34. Kaplan Meier Curves for Time to Confirmed Deterioration of 8 points on NFOSI-18 Total Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 1.52 (95% confidence interval: 0.81, 2.86)

Median time to first deterioration: rucaparib = not estimable; placebo = 17.6 months (10.3 months, not estimable).

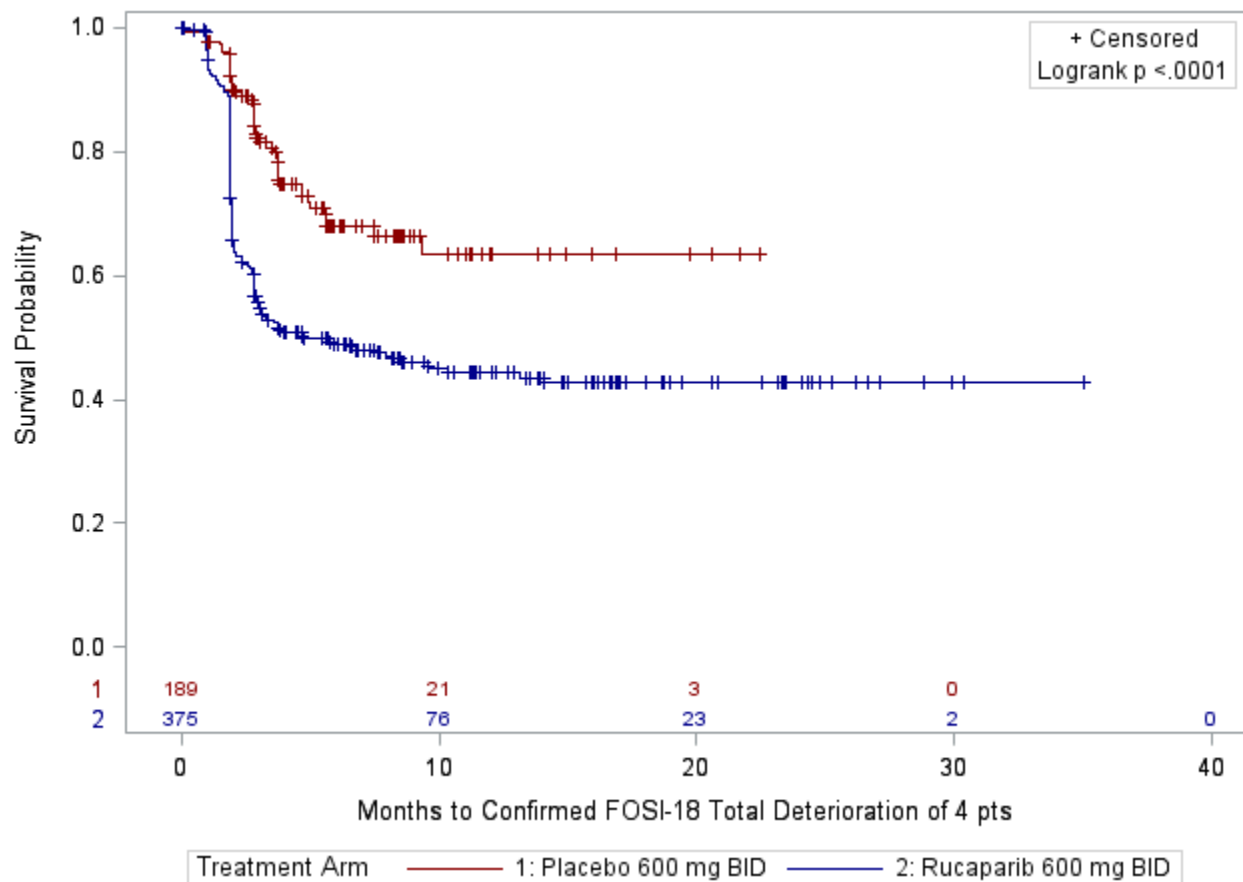
**Figure S35. Kaplan Meier Curves for Time to Confirmed Deterioration of 8 points on NFOSI-18 Total Stratified by Treatment Arm in the HRD Cohort**



Hazard ratio: 2.43 (95% confidence interval: 1.48, 4.00)

Median time to first deterioration: rucaparib = not estimable; placebo = not estimable.

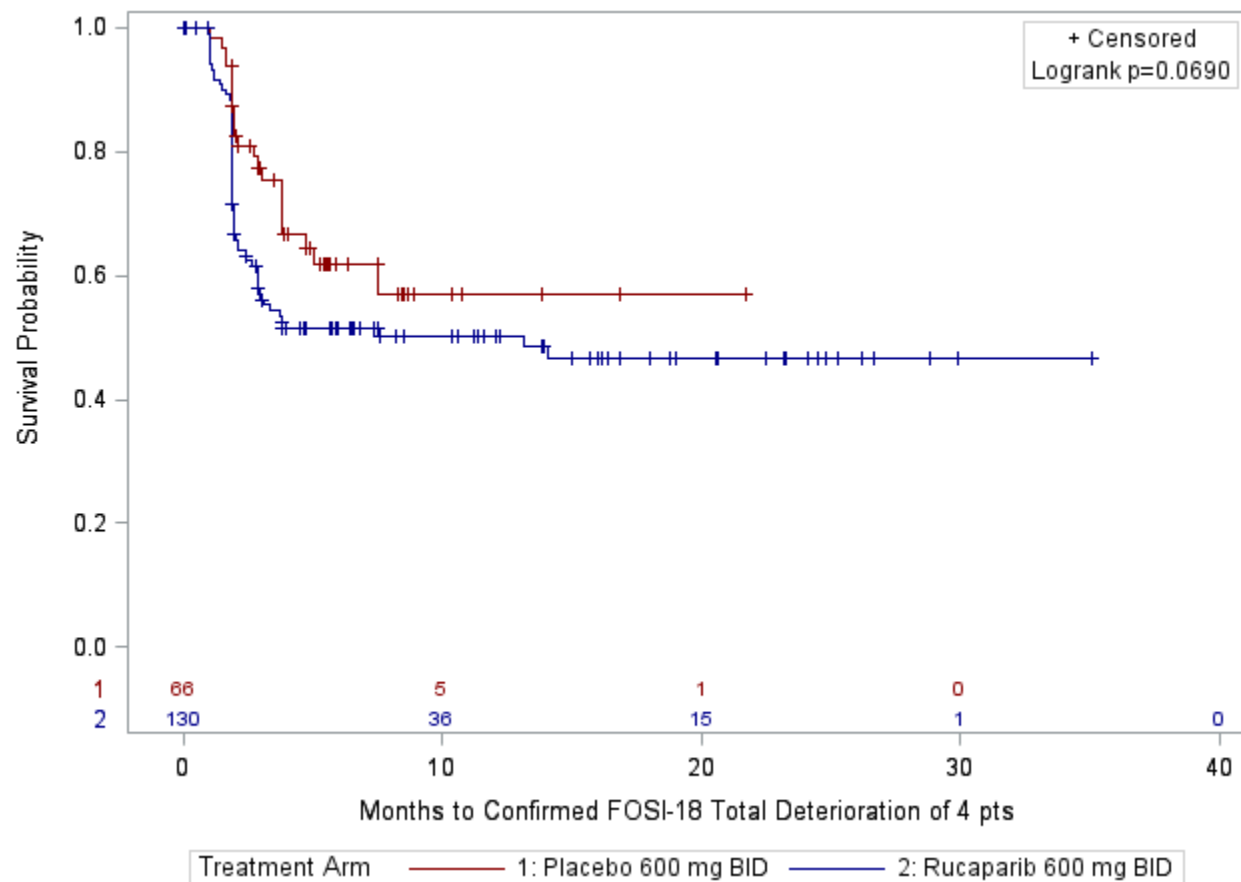
**Figure S36. Kaplan Meier Curves for Time to Confirmed Deterioration of 4 points on NFOSI-18 Total Stratified by Treatment Arm in the Intention to Treat Cohort**



Hazard ratio: 2.20 (95% confidence interval: 1.61, 3.01)

Median time to first deterioration: rucaparib = 4.7 months (3.0 months, 10.3 months); placebo = not estimable.

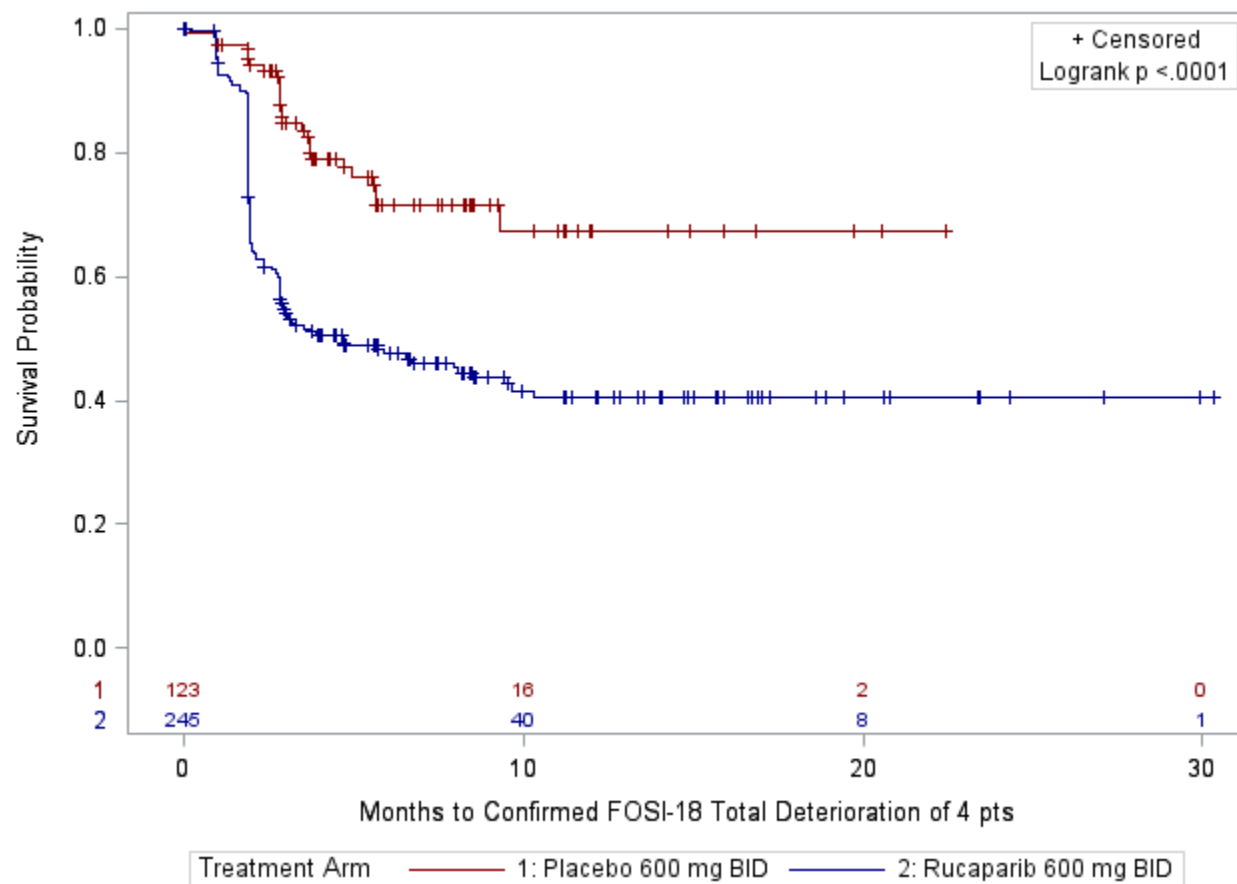
**Figure S37. Kaplan Meier Curves for Time to Confirmed Deterioration of 4 points on NFOSI-18 Total Stratified by Treatment Arm in the BRCA Mutant Cohort**



Hazard ratio: 2.56 (95% confidence interval: 0.95, 2.55)

Median time to first deterioration: rucaparib = 13.1 months (2.8 months, not estimable); placebo = not estimable.

**Figure S38. Kaplan Meier Curves for Time to Confirmed Deterioration of 4 points on NFOSI-18 Total Stratified by Treatment Arm in the HRD Cohort**

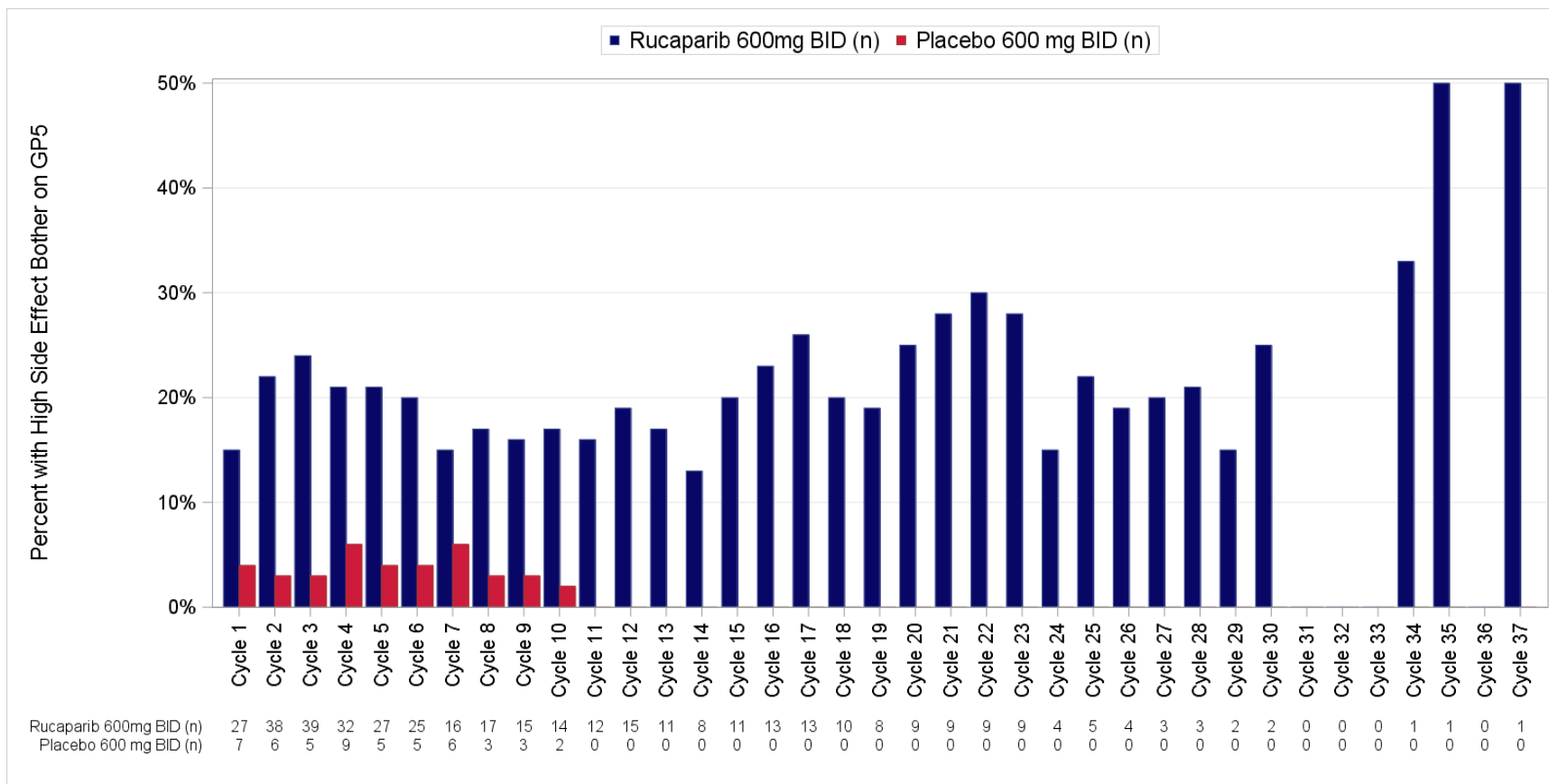


Hazard ratio: 2.73 (95% confidence interval: 1.82, 4.14)

Median time to first deterioration: rucaparib = 4.7 months (2.8 months, 9.6); placebo = not estimable.

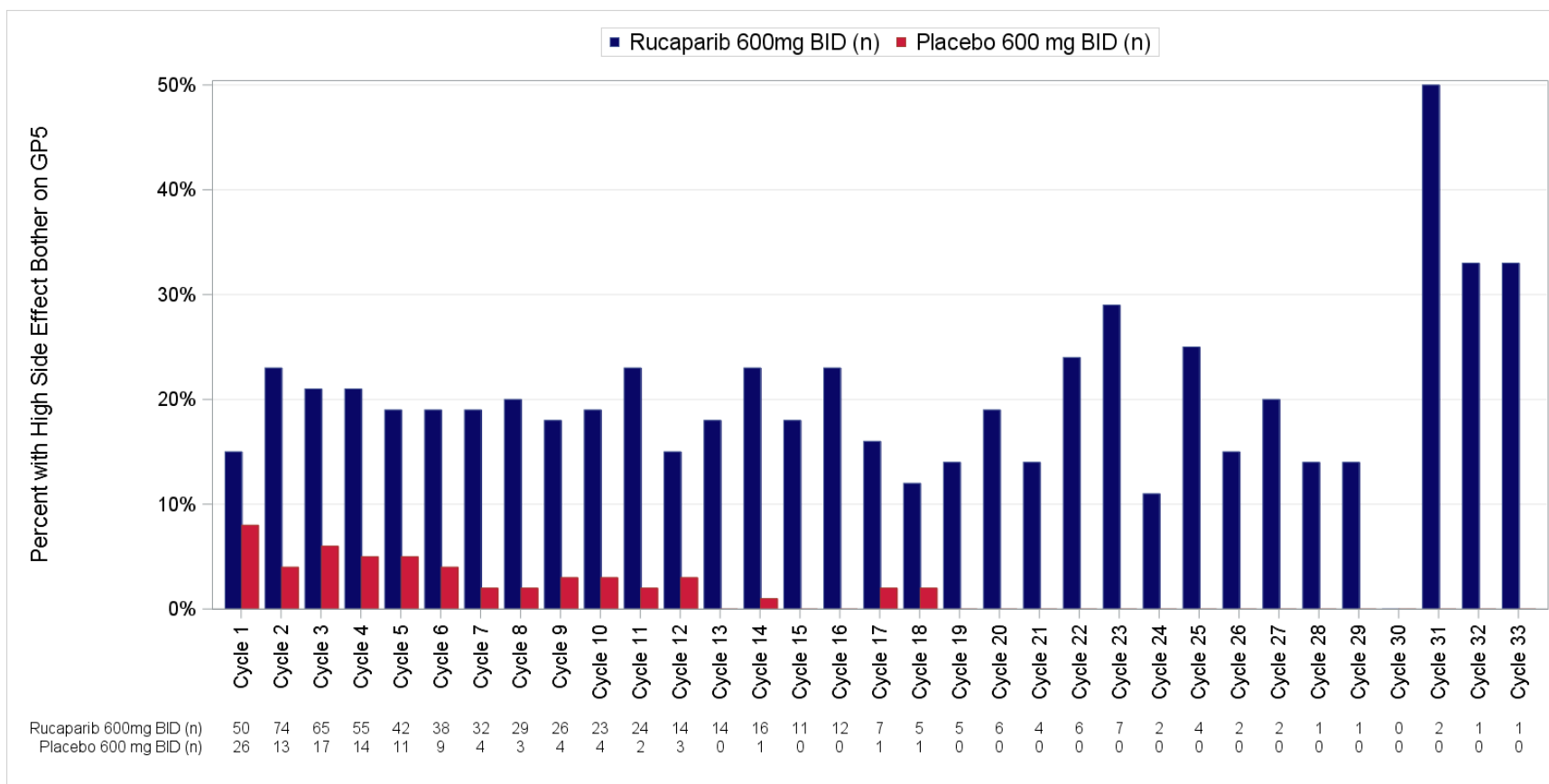


**Figure S39. Percentages of Patients Reporting High Side Effect Bother on GP5 Item Stratified by Treatment Arm in the BRCA Mutant Cohort**



High side effect bother was defined as a response of “Very much,” “Quite a bit,” or “Somewhat” to the GP5 item (“I am bothered by side effects of treatment”).

**Figure S40. Percentages of Patients Reporting High Side Effect Bother on GP5 Item Stratified by Treatment Arm in the HRD Cohort**



High side effect bother was defined as a response of “Very much,” “Quite a bit,” or “Somewhat” to the GP5 item (“I am bothered by side effects of treatment”).