Data Set 2: Cluster 1

Revival of μs-ms dynamics upon RING binding (related to Figure 6 and Table S3). R$_2$ relaxation dispersion profile for [${}^2$H,${}^{15}$N]-Ube2g2:RING-G2BR (unlabeled) complex at 1.5°C. Data was measured at ${}^1$H frequencies of 900 MHz (red) and 700 MHz (blue). The residues are clustered as described in Table S3.

Dispersion profile of residues in cluster 1. 
Data Set 2: Cluster 2

Revival of µs-ms dynamics upon RING binding (related to Figure 6 and Table S3). $R_2$ relaxation dispersion profile for $[^2H,^{15}N]$-Ubc2g2:RING-G2BR (unlabeled) complex at 1.5°C. Data was measured at $^1H$ frequencies of 900 MHz (red) and 700 MHz (blue). The residues are clustered as described in Table S3.

Dispersion profile of residues in cluster 2.
Data Set 2: Cluster 3

**Revival of μs-ms dynamics upon RING binding** (related to Figure 6 and Table S3). $R_2$ relaxation dispersion profile for $[^{1}H,^{15}N]$-Ube2g2:RING-G2BR (unlabeled) complex at 1.5°C. Data was measured at $^1H$ frequencies of 900 MHz (red) and 700 MHz (blue). The residues are clustered as described in Table S3.

*Dispersion profile of residues in cluster 3.*

Data Set 2: Cluster 4

**Revival of μs-ms dynamics upon RING binding** (related to Figure 6 and Table S3). $R_2$ relaxation dispersion profile for $[^{1}H,^{15}N]$-Ube2g2:RING-G2BR (unlabeled) complex at 1.5°C. Data was measured at $^1H$ frequencies of 900 MHz (red) and 700 MHz (blue). The residues are clustered as described in Table S3.

*Dispersion profile of residues in cluster 4.*