**Supplementary Table 2.** Kruskal-Walis -values when comparing the RI , Brillouin shifts , mass densities , longitudinal moduli and linewidths of the cytoplasm (cyto), nucleoplasm (np) and nucleoli (nl) of 139 wild-type HeLa cells, respectively.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| comparing | RI | Brillouin shift | absolute density lo | ongitudinal modulus | linewidth |
| *c*1:cyto to *c*2:np | 9 × 10−4 | 2 × 10−6 | 3 × 10−3 | 7 × 10−7 | 0.139 |
| *c*1:cyto to *c*2:nl | 1 × 10−21 | 1 × 10−23 | 7 × 10−17 | 4 × 10−23 | 8 × 10−14 |
| *c*1:np to *c*2:nl | 2 × 10−37 | 2 × 10−7 | 3 × 10−29 | 9 × 10−7 | 2 × 10−8 |