**Supplementary Figure 1.** Slit lamp biomicroscope examination of additional *Col4a1*<sup>+/Δex41</sup> mice on CASTB6F1 background. (**A**, **C**, **E**), front views and (**B**, **D**, **F**) side views of the same eye were shown. While most *Col4a1*<sup>+/Δex41</sup> mutant eyes showed mild ASD phenotypes, eyes with relatively severe sub-phenotypes including severe cataract (**A-B**, arrowhead), severely enlarged anterior chamber, corneal neovascularization (**B**, **D**, **a**, asterisk) and iris coloboma (**E**, **F**, arrow) were also noted.