



Supplement of

Control of crustal strength, tectonic inheritance, and stretching/shortening rates on crustal deformation and basin reactivation: insights from laboratory models

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Fig. S1: Interpreted pictures, principal stretches λ_{max} , λ_{min} ($\lambda = 1$ represents no length change) and strain type after 4% of along-*y* shortening for brittle models (a) BI10, (b) BI09, (c) BI05, (d) BI06, and (e) BI07: shortening (red), strike-slip (green) and stretching (blue), with intermediate, oblique deformation at intermediate colors. The corresponding amount of along-*x* stretching is indicated at the top.



Fig. S2: Principal stretches λ_{max} , λ_{min} ($\lambda = 1$ represents no length change) for models with a brittle crust after 12% of along-y shortening for (a) model BI10, and after 10% of along-x stretching for models (b) Bl09, (c) Bl05, (d) Bl06, and (e) Bl07, and for models with a brittle crust and two-stages of deformation (f) model Bl01, (g) model Bl08, and (h) model BI11. The corresponding amount of along-x stretching and/or along-y shortening is indicated at the top.

Two-stage deformation



Fig. S3: Principal stretches λ_{max} , λ_{min} ($\lambda = 1$ represents no length change) for models with a brittle-ductile crust and one-stage deformation: (a) model CE16, and two-stage deformation: (b) model CE17, (c) model CE18, and (d) model CE20. The corresponding amount of along-*x* stretching and/or along-*y* shortening is indicated at the top.