

Description of Additional Supplementary Files

File name: Supplementary Data 1

Description: Major (wt %) and trace element (ppm) compositions of the migmatite and leucosome samples

File name: Supplementary Data 2

Description: Summary of Age- $\delta^{18}\text{O}$ - $\epsilon_{\text{Hf}}(\text{t})$ results from core and rim zircon of the migmatites

File name: Supplementary Data 3

Description: Analytical results of zircon U-Pb-Hf-O dating for migmatite and leucosome samples in the Huangshuihe Group

File name: Supplementary Data 4

Description: Major element (wt. %) results for garnet, muscovite, biotite, plagioclase, K-feldspar and Fe-oxide in 16YX-1-1

File name: Supplementary Data 5

Description: Trace element compositions of zircon grains from the migmatite samples in Huangshuihe Group (ppm)