



**Online Resource 1** mc-FISH and sequential sc-GISH images of disomic addition (DA) lines of *Th. bessarabicum* chromosomes (indicated by arrows) in hexaploid wheat background. **a, b** DA1J-2. **c, d** BC<sub>3</sub>F<sub>1</sub>-178D (used in rplace of DA3J). **e, f** DA4J-2 with inset showing mc-FISH pattern of chromosomes 4J from other back-cross lines produced through our crossing programme. **g, h** DA5J-1. **i, j** DA6J-2 with inset showing mc-FISH pattern of chromosomes 6J from other back-cross lines produced through our crossing programme. **k, l** DA7J-2. mc-FISH shows sites of hybridisation with fluorescence-labelled probes, pSc119.2 (green) and pAs.1 (red). sc-GISH shows hybridisation with fluorescence-labelled *Th. bessarabicum* genomic DNA as probe (green). Chromosomes were stained with DAPI (blue)