



File A6.1: Images of key dinocyst taxa. Scale bar 50μm. **a)** *Apectodinium augustum* (Longyearbyen section, slide SVAL 105, 615 cm, England Finder [EF] co-ordinates: Y30-1). **b)** *Glaphyrocysta exuberans* (Longyearbyen section, slide SVAL 151, 850 cm, EF: V20-1). **c)** *Lentinia* spp. (Longyearbyen section, slide SVAL 200, 1250 cm, EF: V26-0). **d)** *Apectodinium parvum* (Longyearbyen section, slide SVAL EF:Q25-4). **e)** *Senegalinium* spp. (Longyearbyen section, slide SVAL EF:O19-4). **f)** *Cerodinium* spp. (Longyearbyen section, slide SVAL 195, 1200 cm, EF:P19-3). **g)** *Hystrichokolpoma* spp. (Bergmanfjellet section, slide 678, 79.70 m). **h)** *Phelodinium* spp. (Longyearbyen section, slide SVAL 200, 1250 cm, EF: T23-4). **i)** *Muratodinium* spp. (Bergmanfjellet section, slide 694, 81.30 m). **j)** *Spiniferites* spp. (Longyearbyen section, slide SVAL 225, 1500 cm).