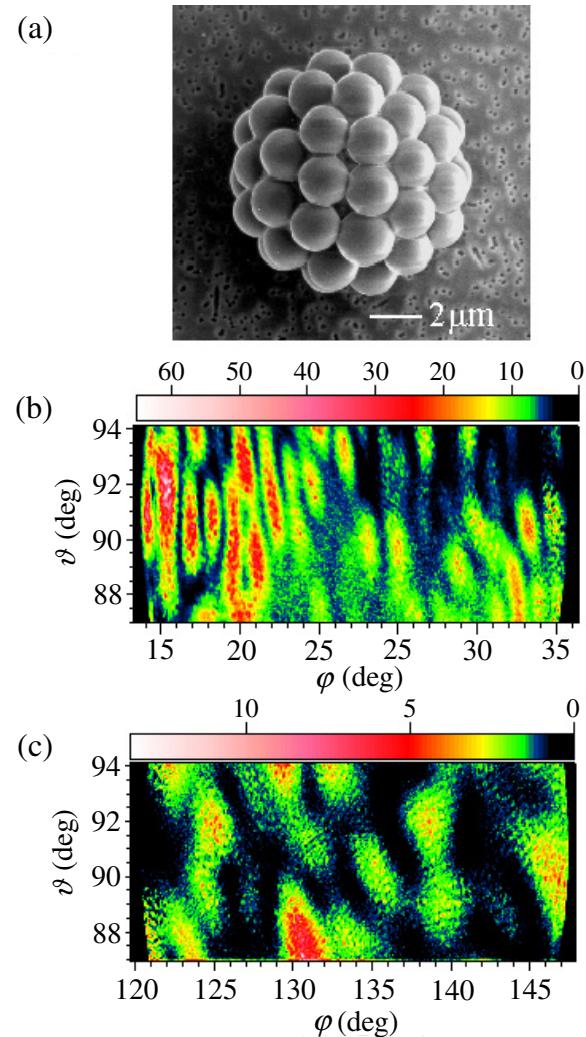
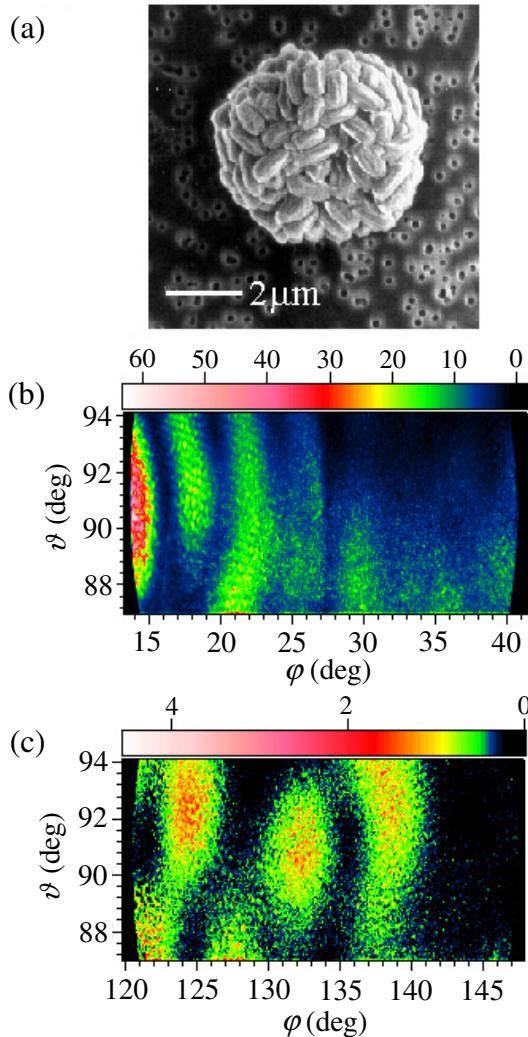


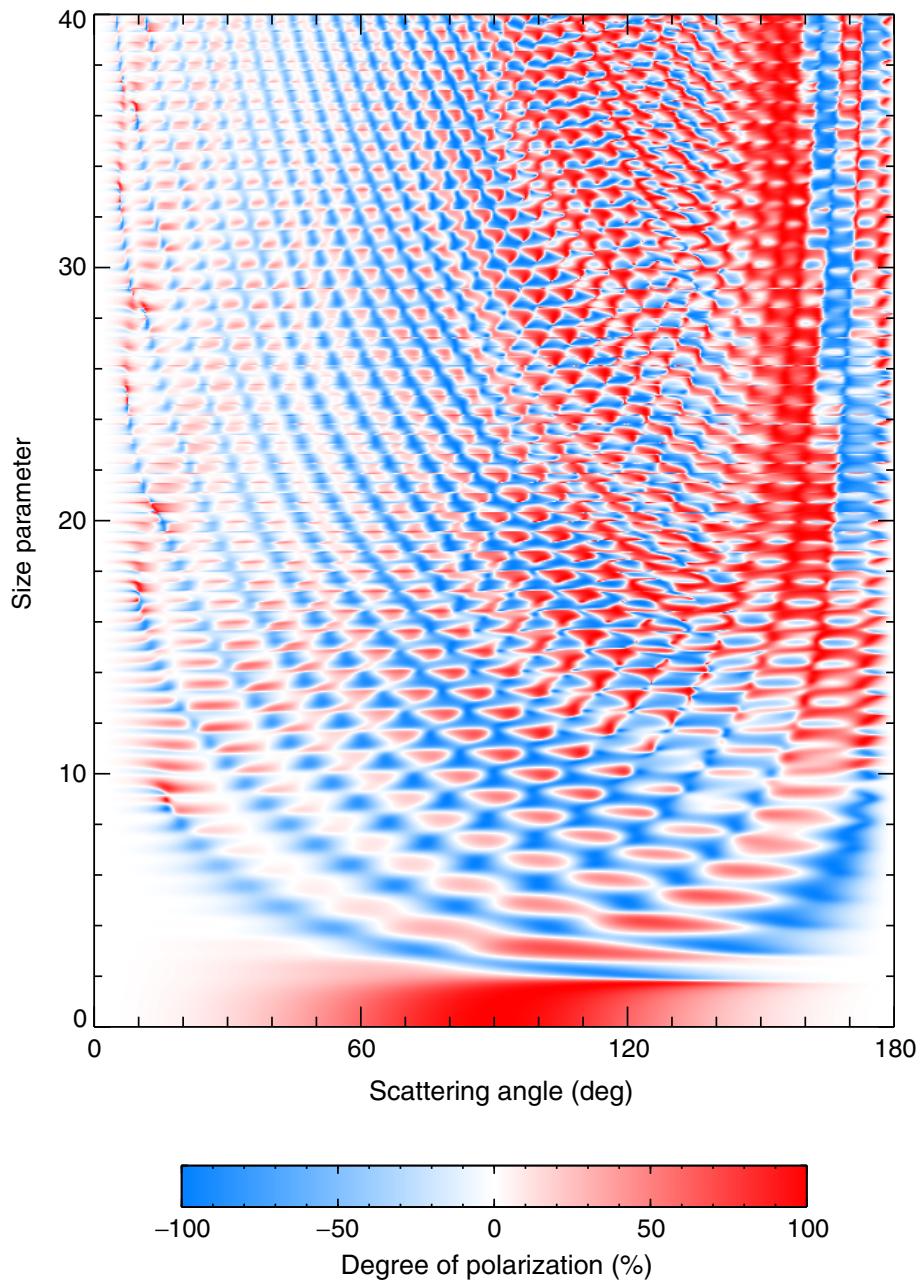
## Color plate section

M. I. Mishchenko, L. D. Travis, and A. A. Lacis  
*Scattering, Absorption, and Emission of Light by Small Particles*  
Cambridge University Press, Cambridge (2002)  
and NASA Goddard Institute for Space Studies, New York (2004)  
<http://www.giss.nasa.gov/~crmim/books.html> © NASA

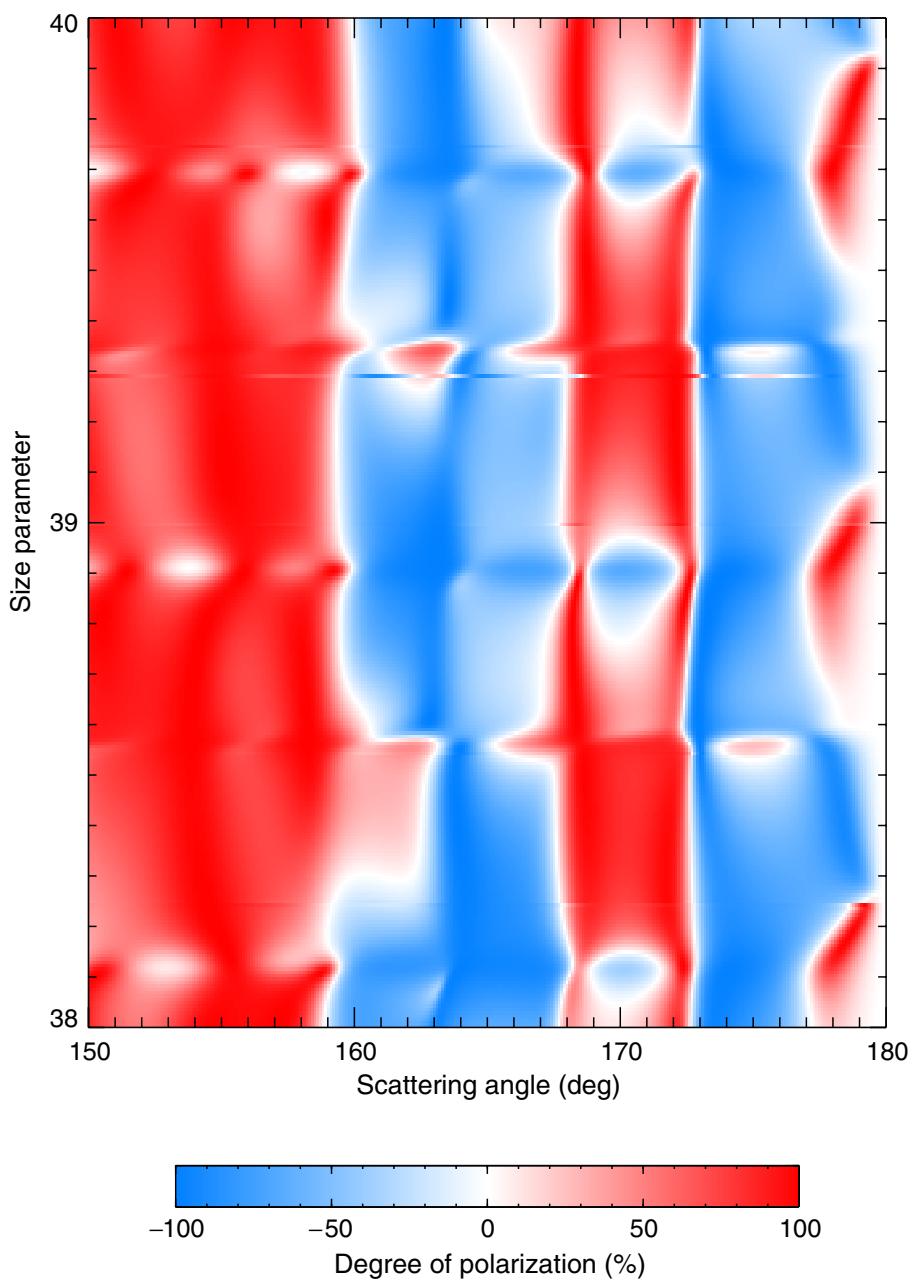




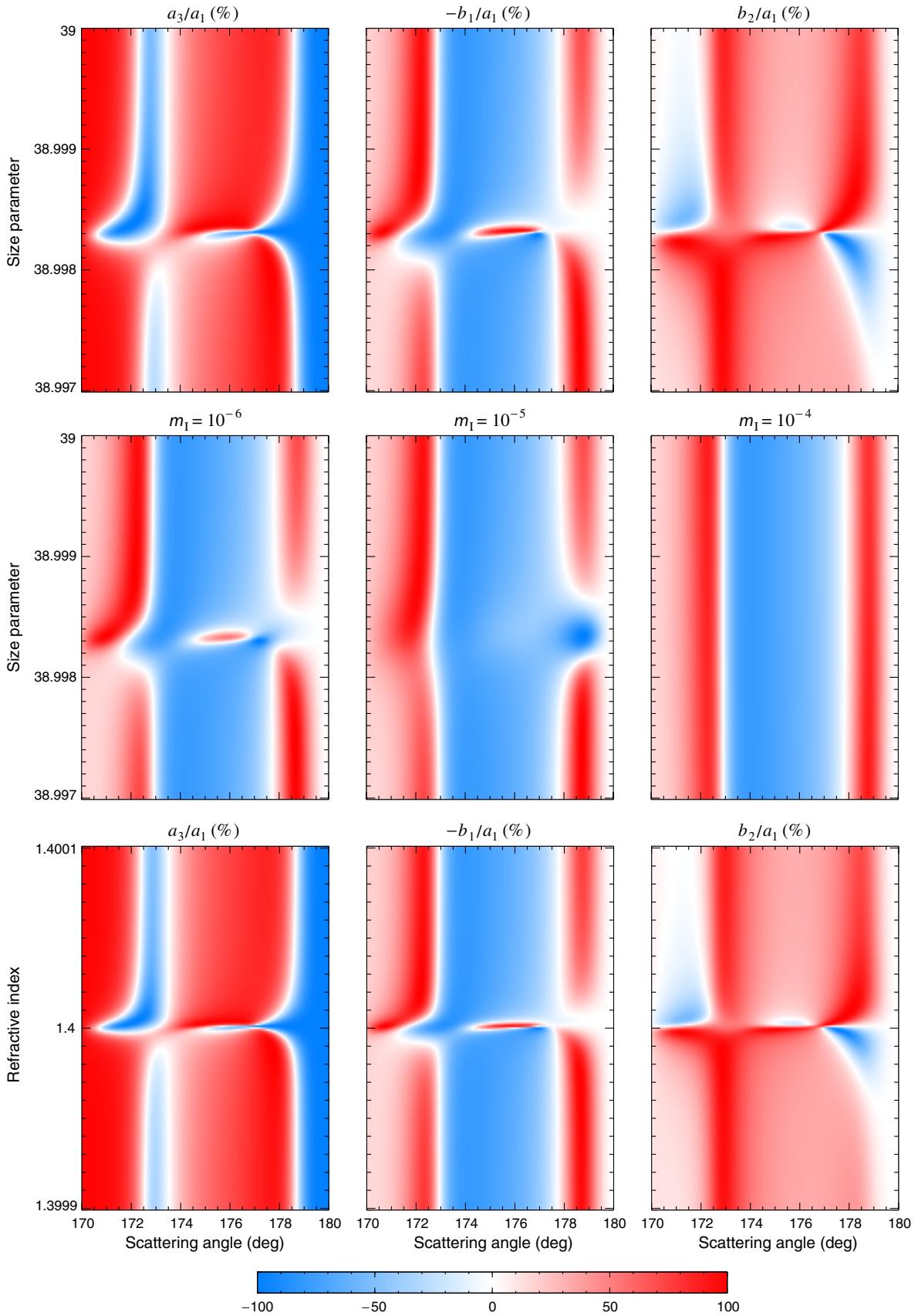
**Plate 8.1.** On the left: (a) scanning electron microscope image of a cluster of *Bacillus subtilis* spores and two-dimensional angular patterns of scattered intensity (in arbitrary units) in (b) the near-forward direction and (c) the near-backward direction. The particle was illuminated by a laser beam incident along the positive direction of the  $x$ -axis of the laboratory reference frame. The horizontal and vertical axes of each diagram show the azimuth and zenith angles of the scattering direction, respectively. On the right: as on the left, but for a cluster of polystyrene latex micro-spheres. (From Holler *et al.* 1998.)



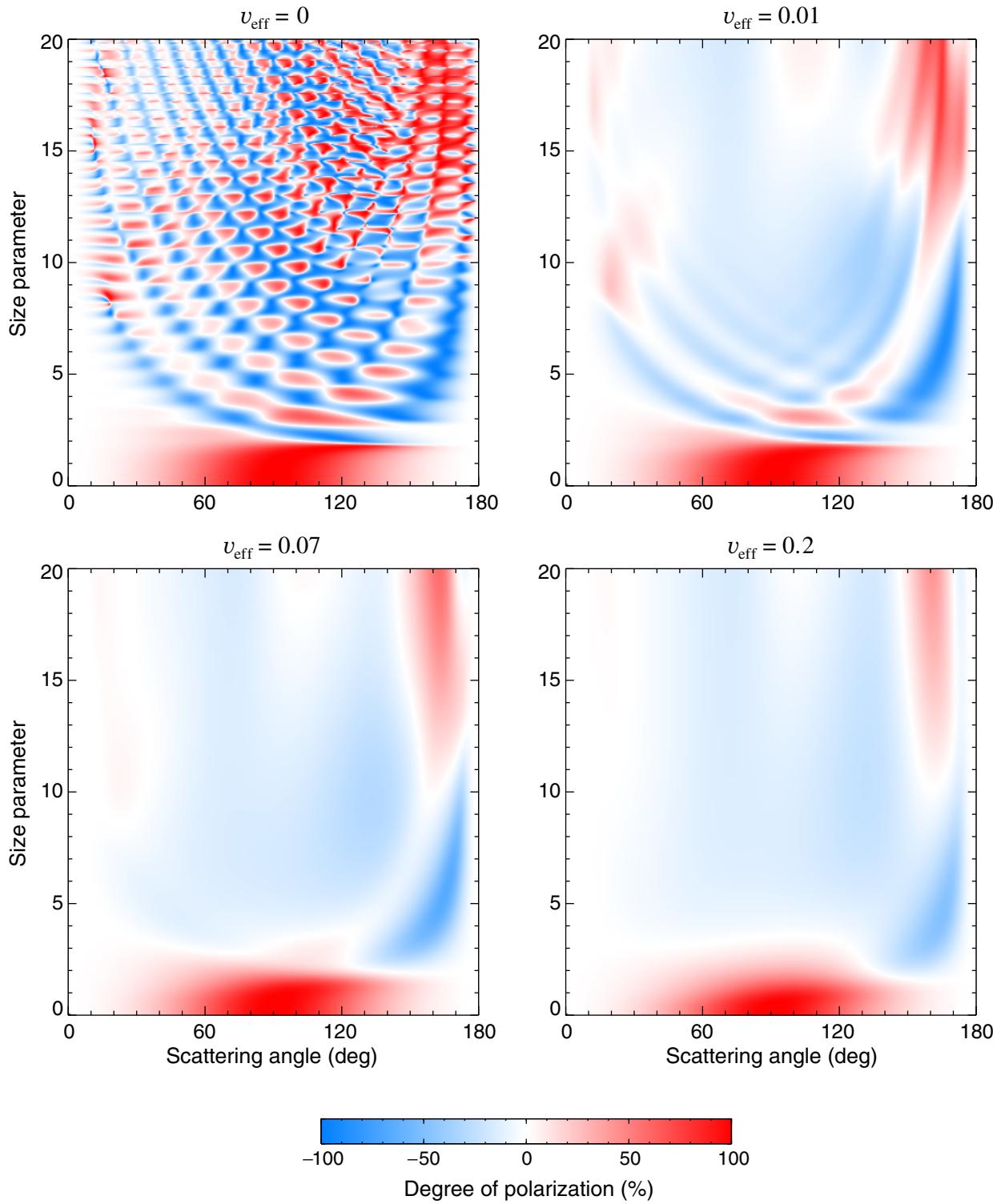
**Plate 9.1.** Low-resolution color image of the degree of linear polarization  $P_Q = -b_1/a_1$  for monodisperse spherical particles with relative refractive index  $m = 1.4$ .



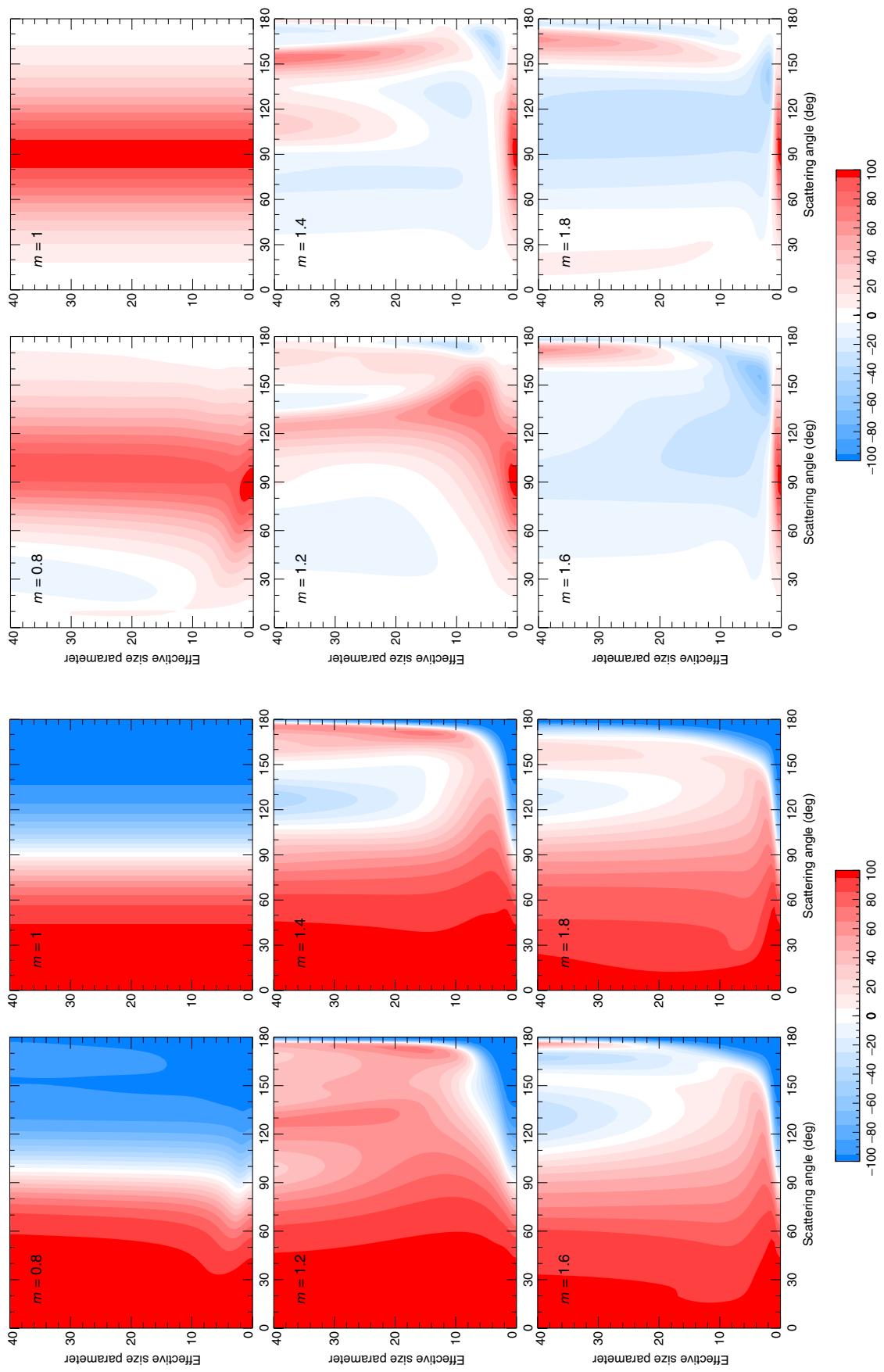
**Plate 9.2.** As in Plate 9.1, but using a finer sampling resolution.



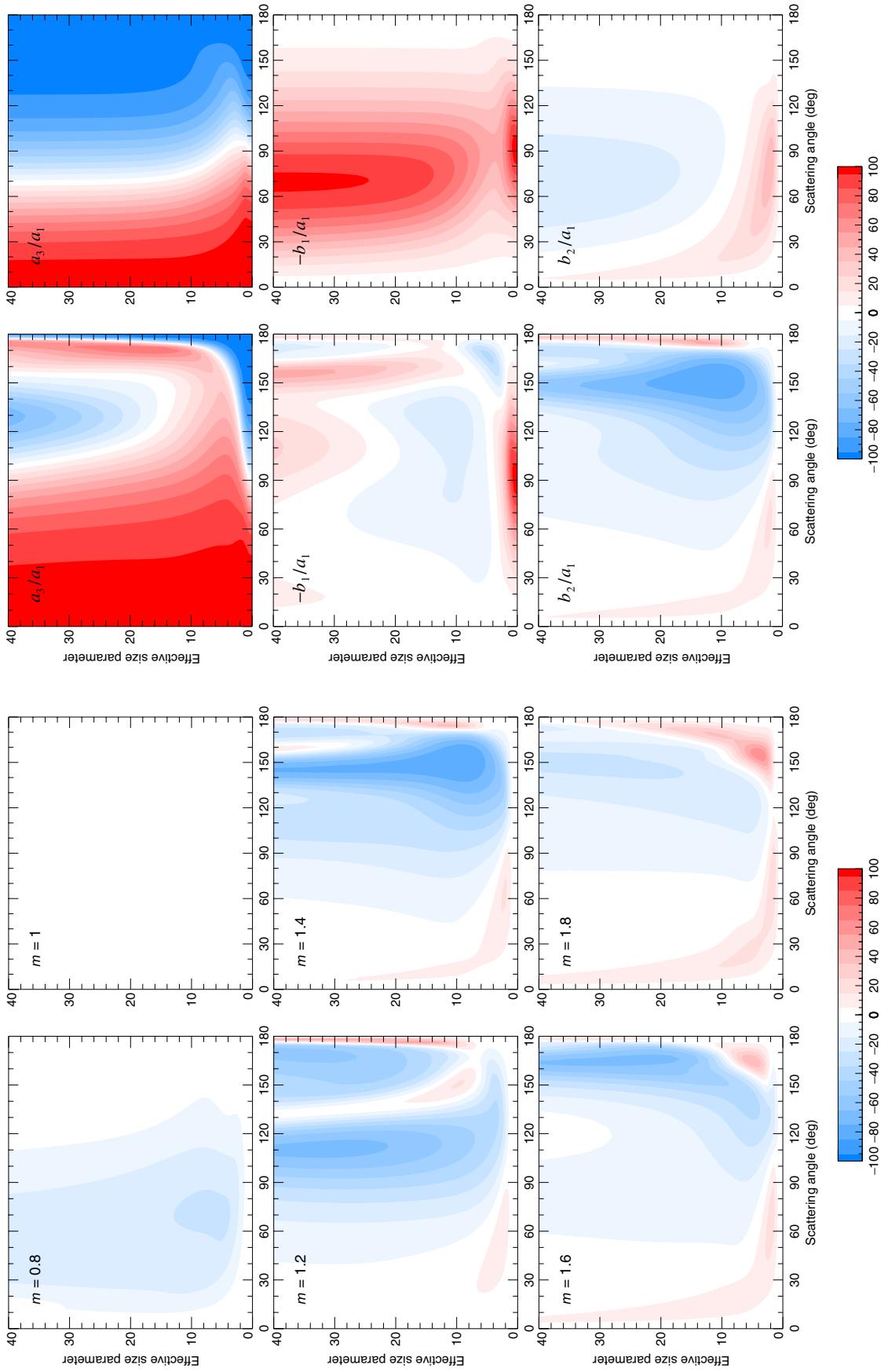
**Plate 9.3.** Top three panels: high-resolution images of Stokes-scattering-matrix-element ratios  $a_3/a_1$ ,  $-b_1/a_1$ , and  $b_2/a_1$  within the super-narrow resonance centered at  $x \approx 38.9983$ , for  $m = 1.4$ . Middle three panels: as in the top panels, but for the ratio  $-b_1/a_1$  with  $m_I = 10^{-6}$ ,  $10^{-5}$ , and  $10^{-4}$ . Bottom three panels: the ratios  $a_3/a_1$ ,  $-b_1/a_1$ , and  $b_2/a_1$  versus  $\Theta$  and  $m_R$  for  $x = 38.9983$  and  $m_I = 0$ .



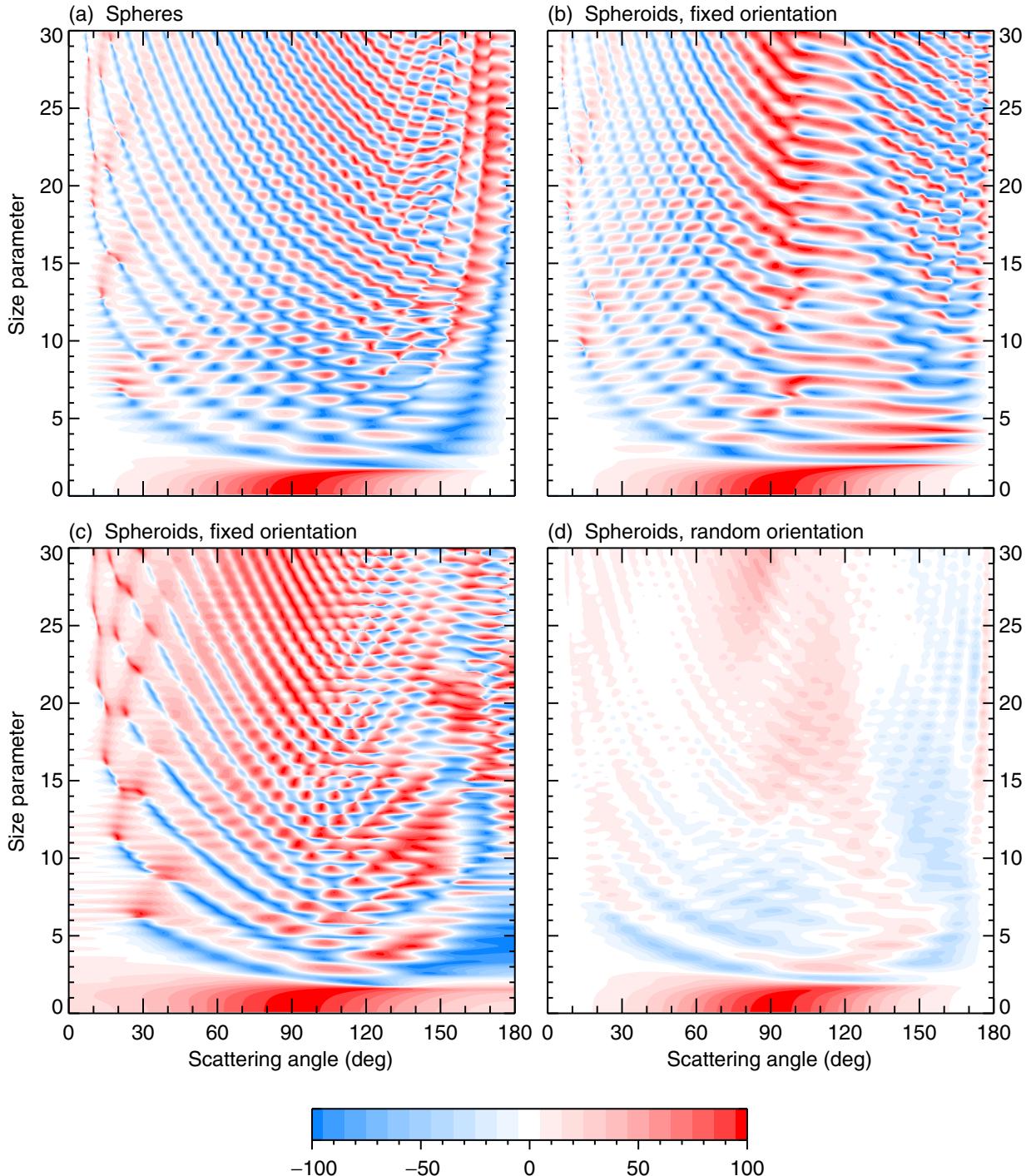
**Plate 9.4.** Images of the degree of linear polarization  $P_Q = -b_1/a_1$  versus effective size parameter and scattering angle, for spherical particles with  $m = 1.44$  and  $v_{\text{eff}} = 0$  (the value for monodisperse particles), 0.01, 0.07, and 0.2.



**Plate 9.5.** Two left-hand columns: color-contour plots of the ratio  $a_3/a_1$  (%) versus effective size parameter and scattering angle for polydisperse spherical particles with relative refractive indices  $m = 0.8, 1, 1.2, 1.4, 1.6$ , and  $1.8$ . Two right-hand columns: as in the two left-hand columns, but for the ratio  $-b_1/a_1$  (%).



**Plate 9.6.** Two left-hand columns: as in Plate 9.5, but for the ratio  $b_2/a_1$  (%). Two right-hand columns: the ratios  $a_3/a_1$ ,  $-b_1/a_1$ , and  $b_2/a_1$  (%) versus effective size parameter and scattering angle for polydisperse spherical particles with relative refractive indices  $m = 1.4 + i0.01$  and  $1.4 + i0.3$ .



**Plate 10.1.** The ratio  $-Z_{21}(\vartheta^{\text{sca}}, \varphi^{\text{sca}} = 0; \vartheta^{\text{inc}} = 0, \varphi^{\text{inc}} = 0)/Z_{11}(\vartheta^{\text{sca}}, \varphi^{\text{sca}} = 0; \vartheta^{\text{inc}} = 0, \varphi^{\text{inc}} = 0)$  in % versus  $\vartheta^{\text{sca}}$  and size parameter for monodisperse spheres and surface-equivalent oblate spheroids in fixed and random orientations. In panels (b) and (c), the rotation axis of the spheroids is oriented respectively along the  $z$ -axis and along the  $x$ -axis of the laboratory reference frame. The relative refractive index is  $1.53 + i0.008$  and the spheroid axis ratio  $a/b = 1.7$ .