



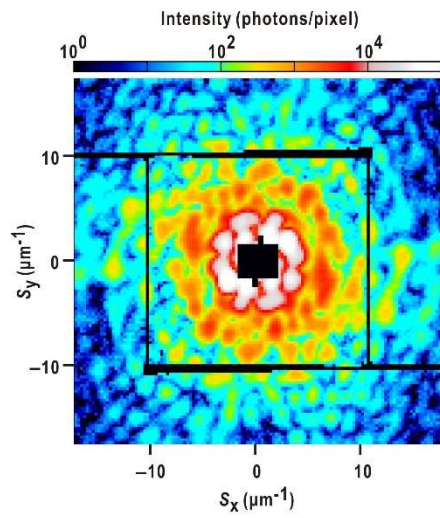
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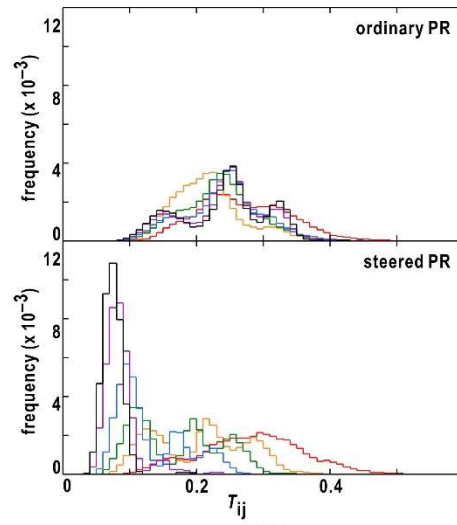
Supporting information for article:

**Protocol using similarity score and improved shrink-wrap algorithm
for better convergence of phase-retrieval calculation in X-ray
diffraction imaging**

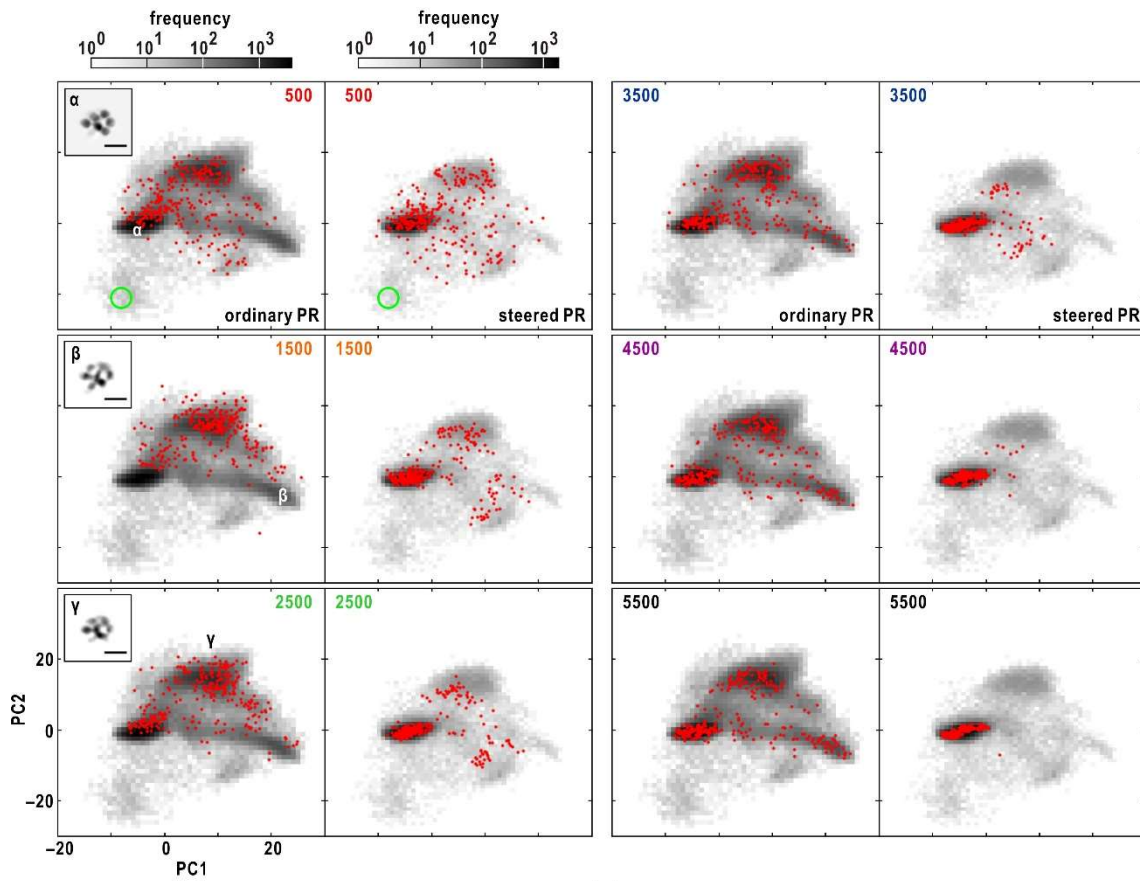
**Syouyo Yoshida, Kosei Harada, So Uezu, Yuki Takayama and Masayoshi
Nakasako**



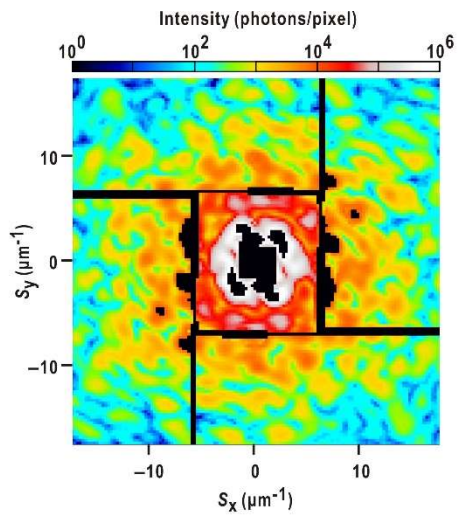
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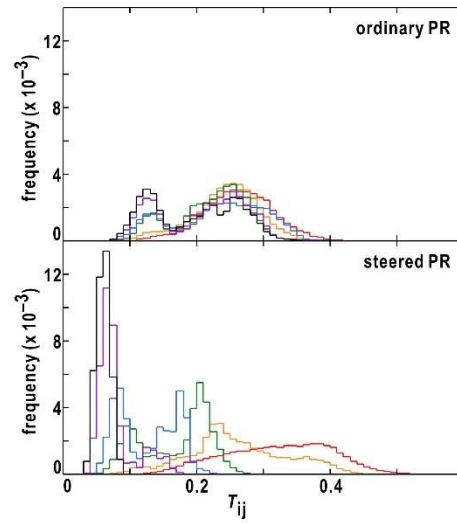
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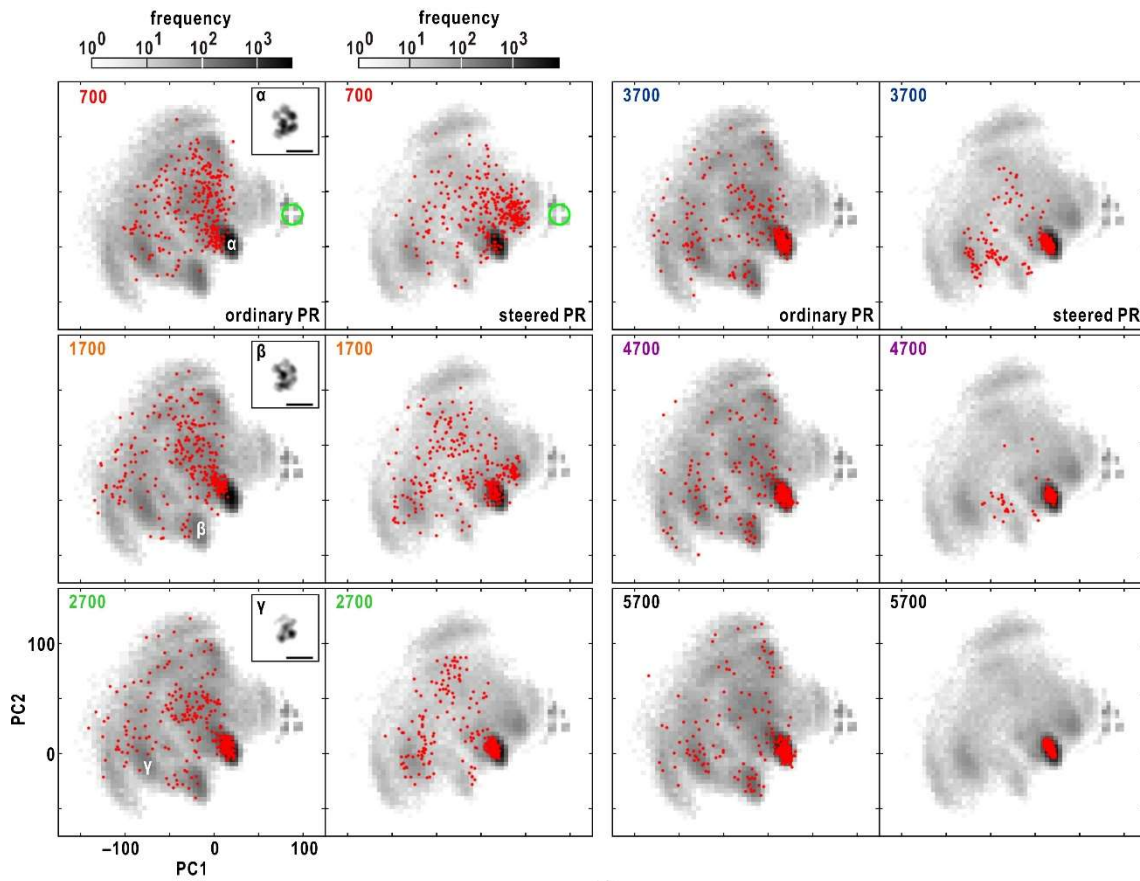
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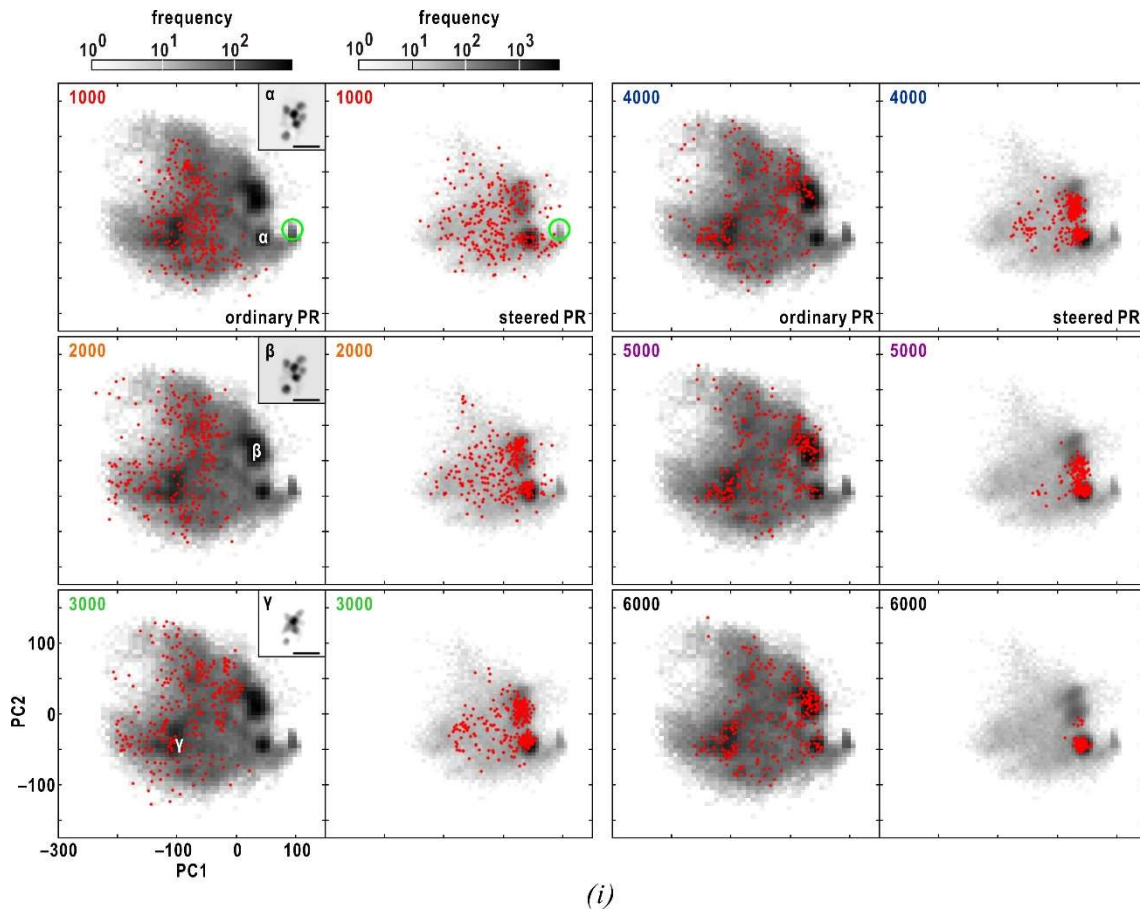
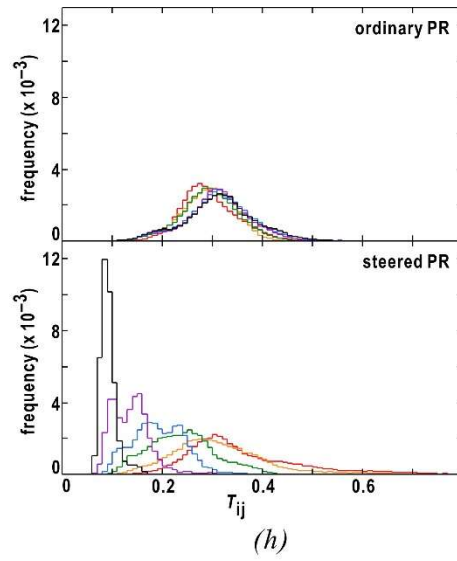
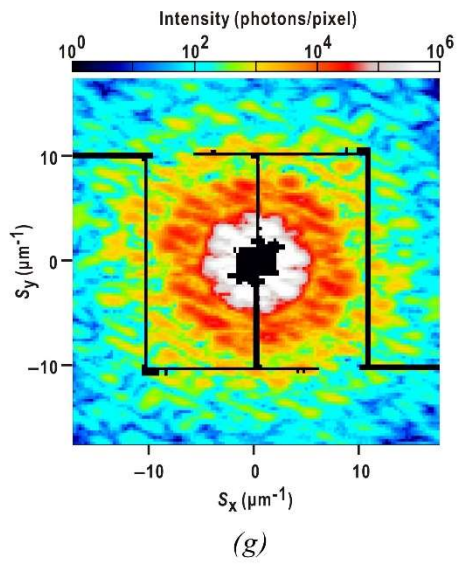
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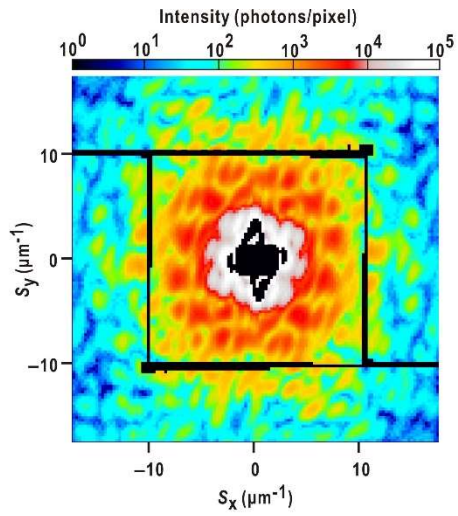


(e)

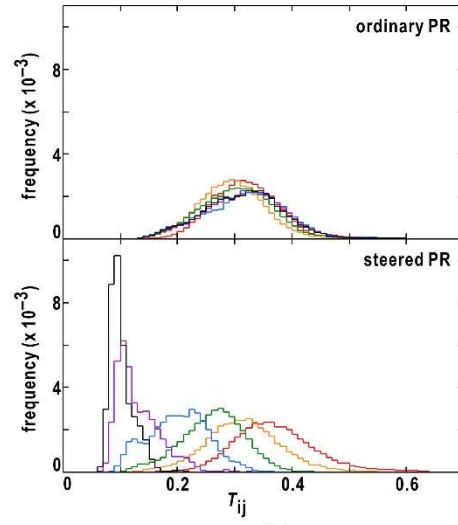


(f)

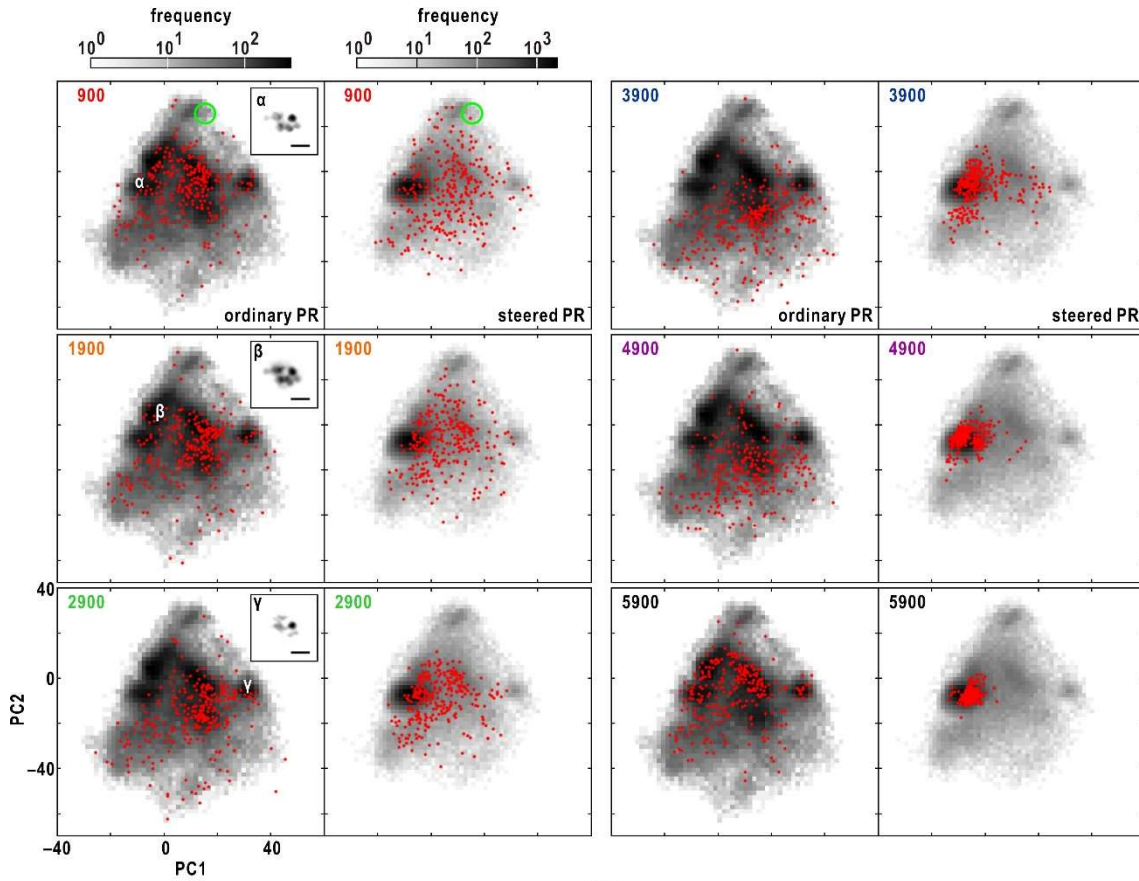




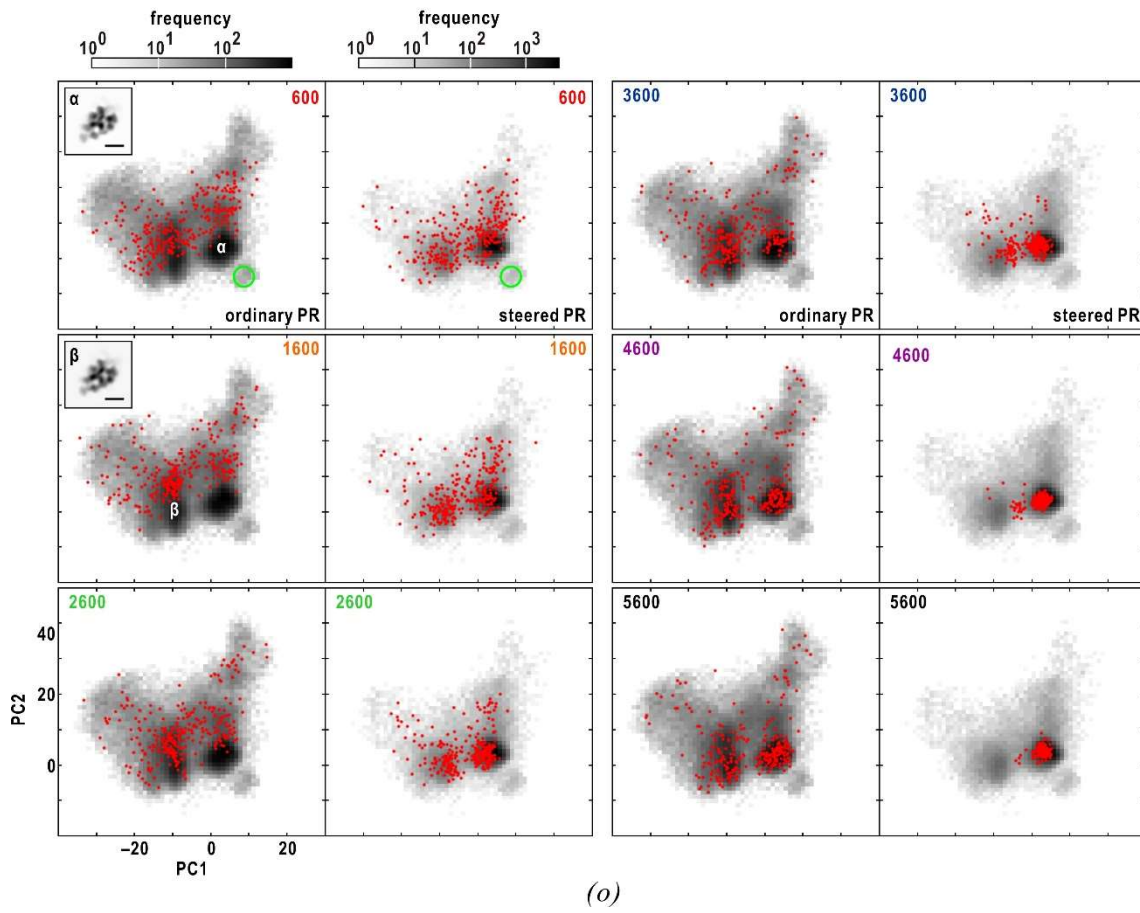
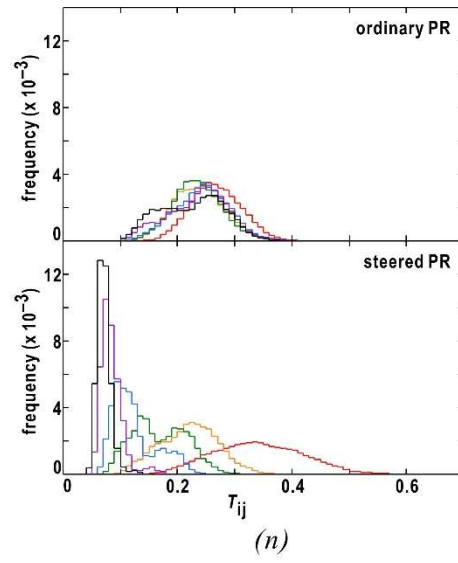
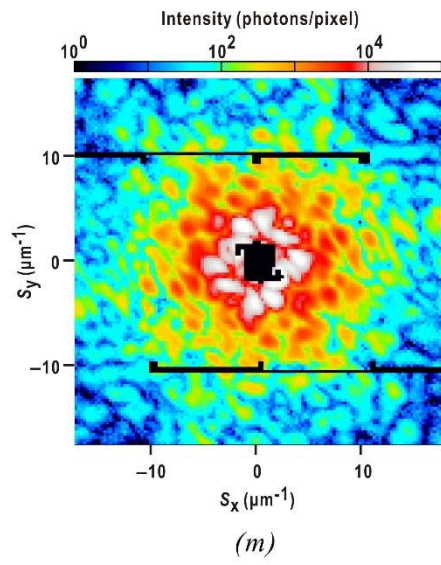
(j)

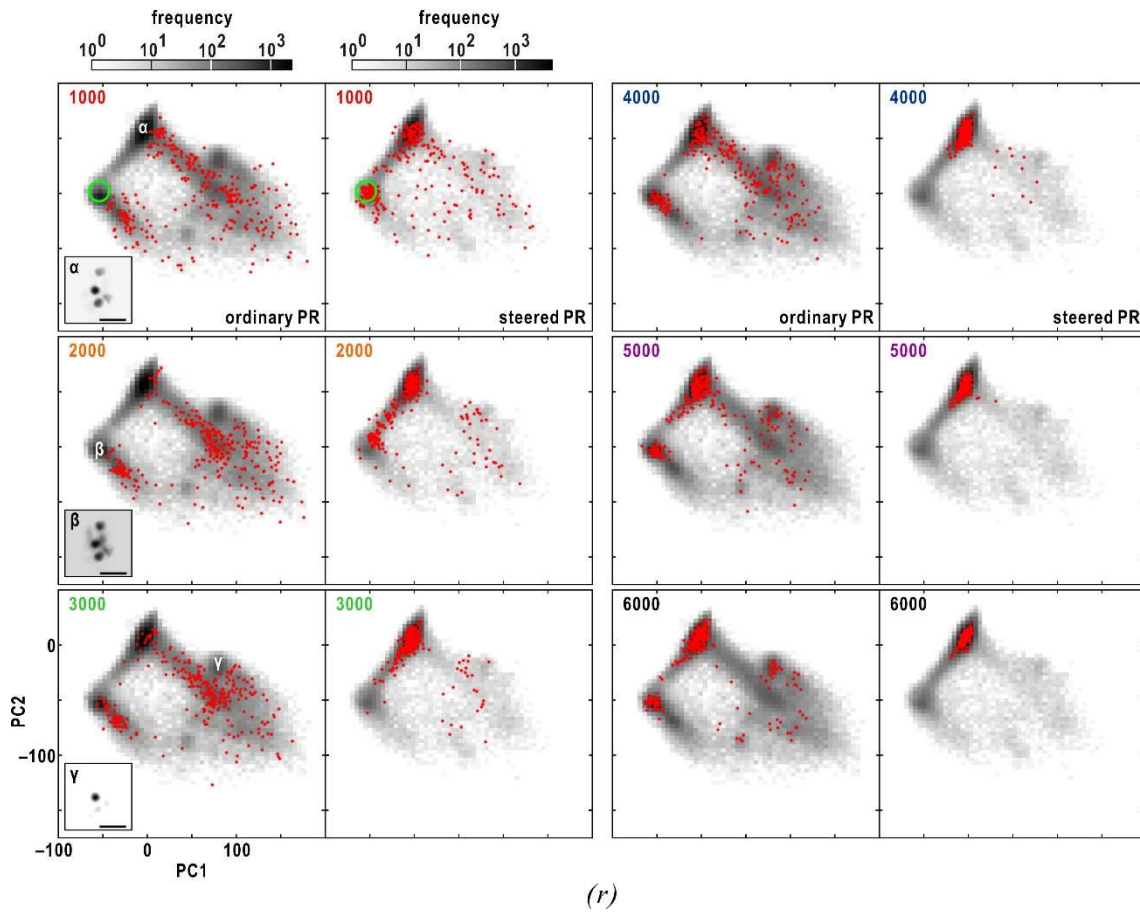
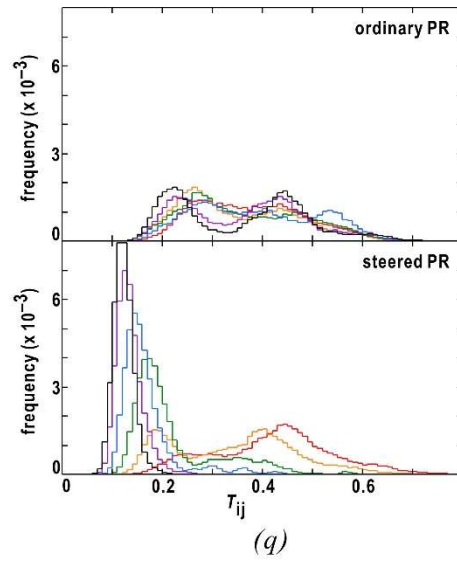
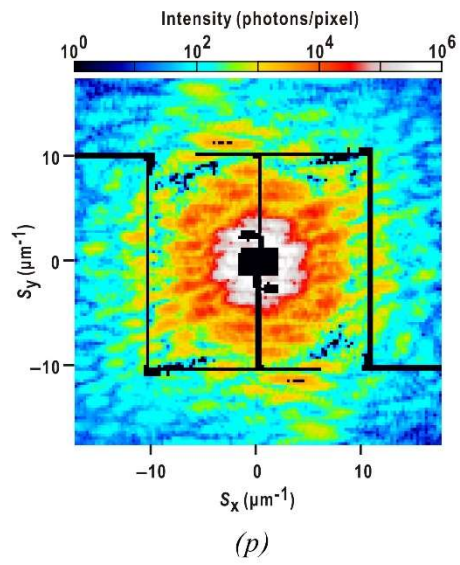


(k)



(l)





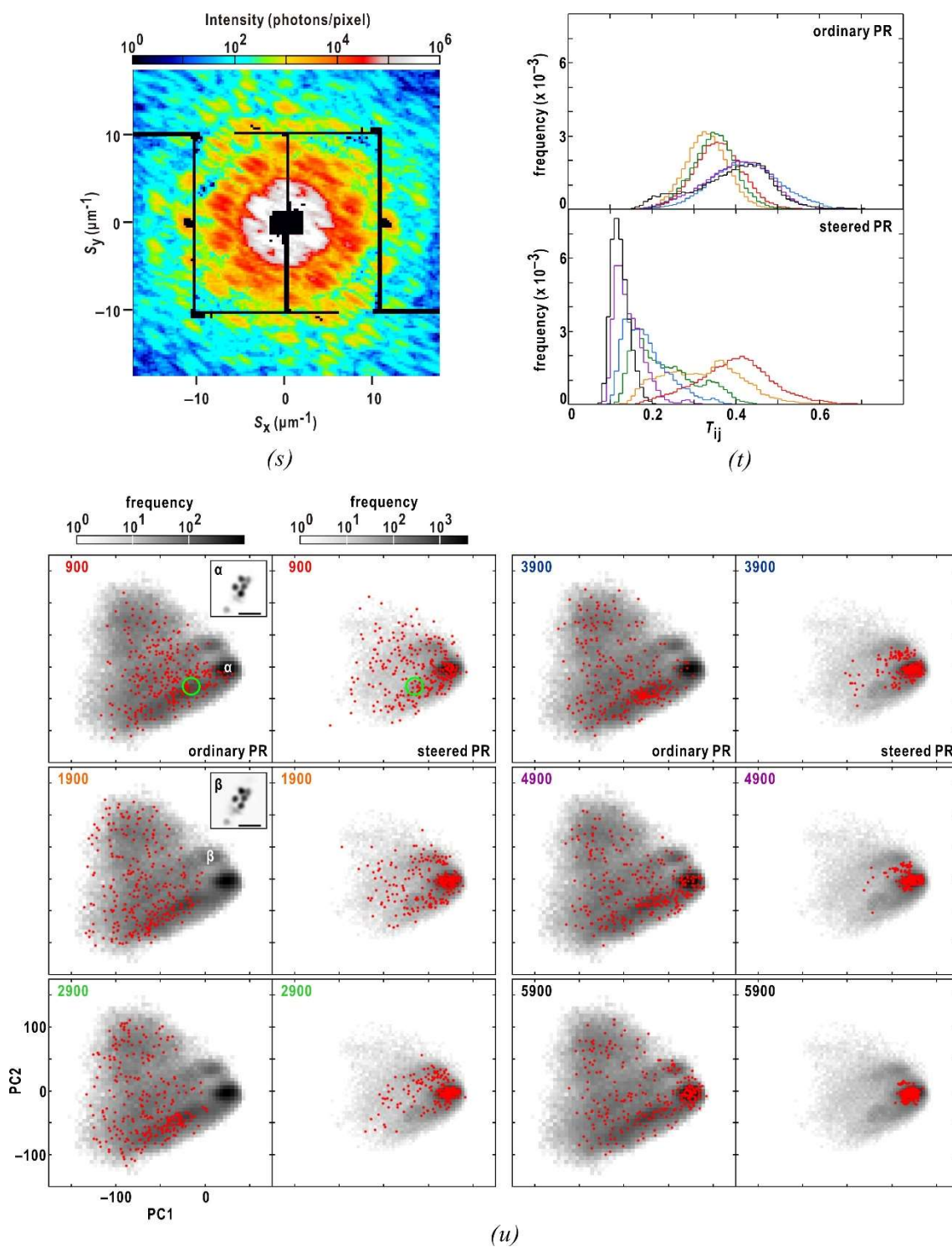
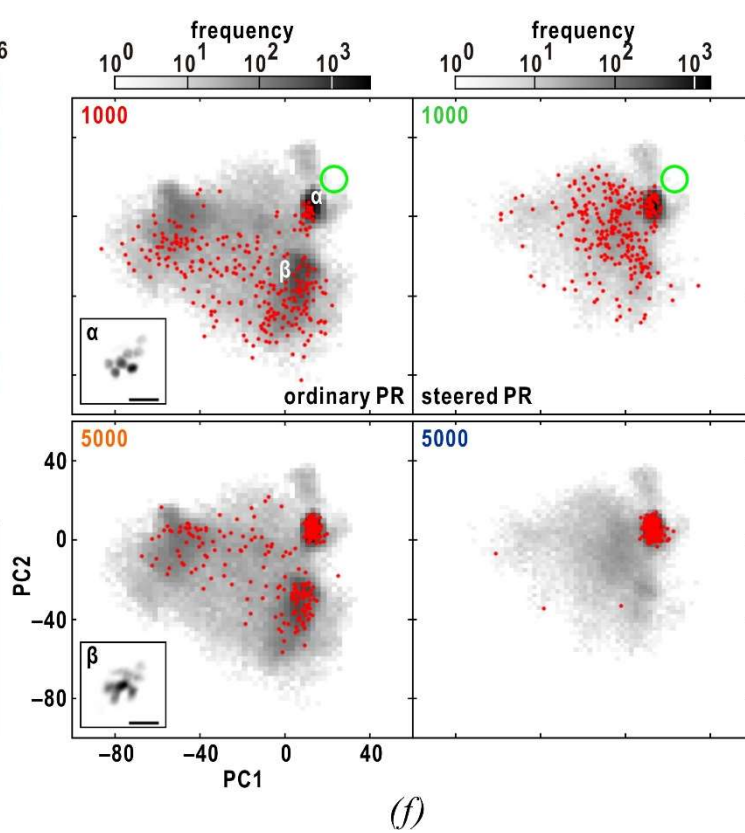
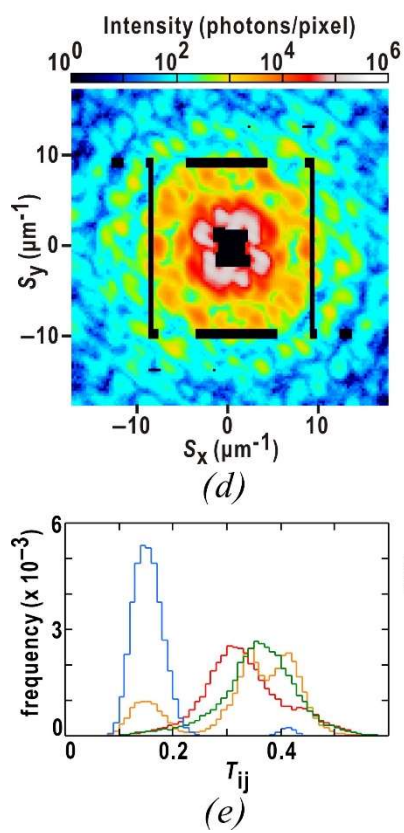
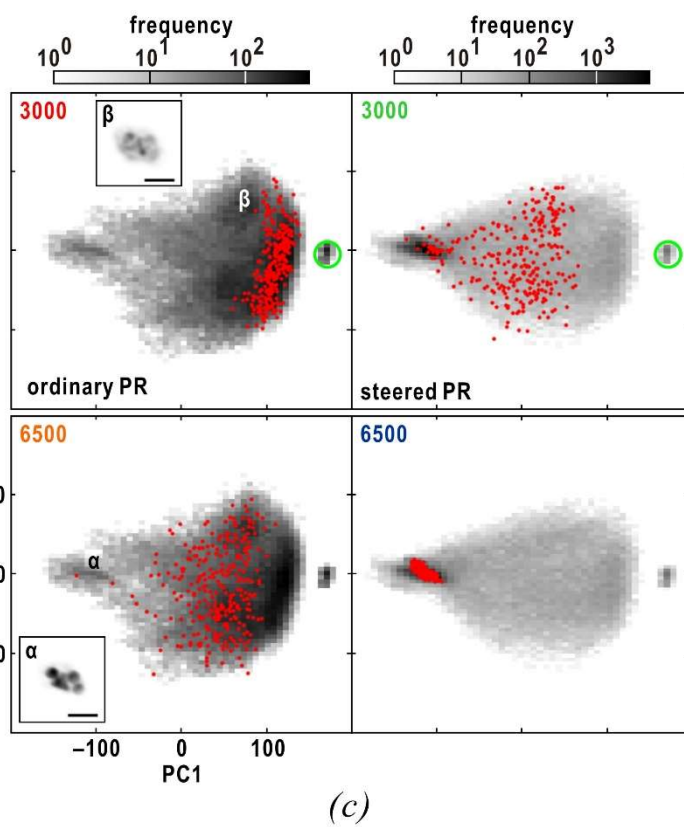
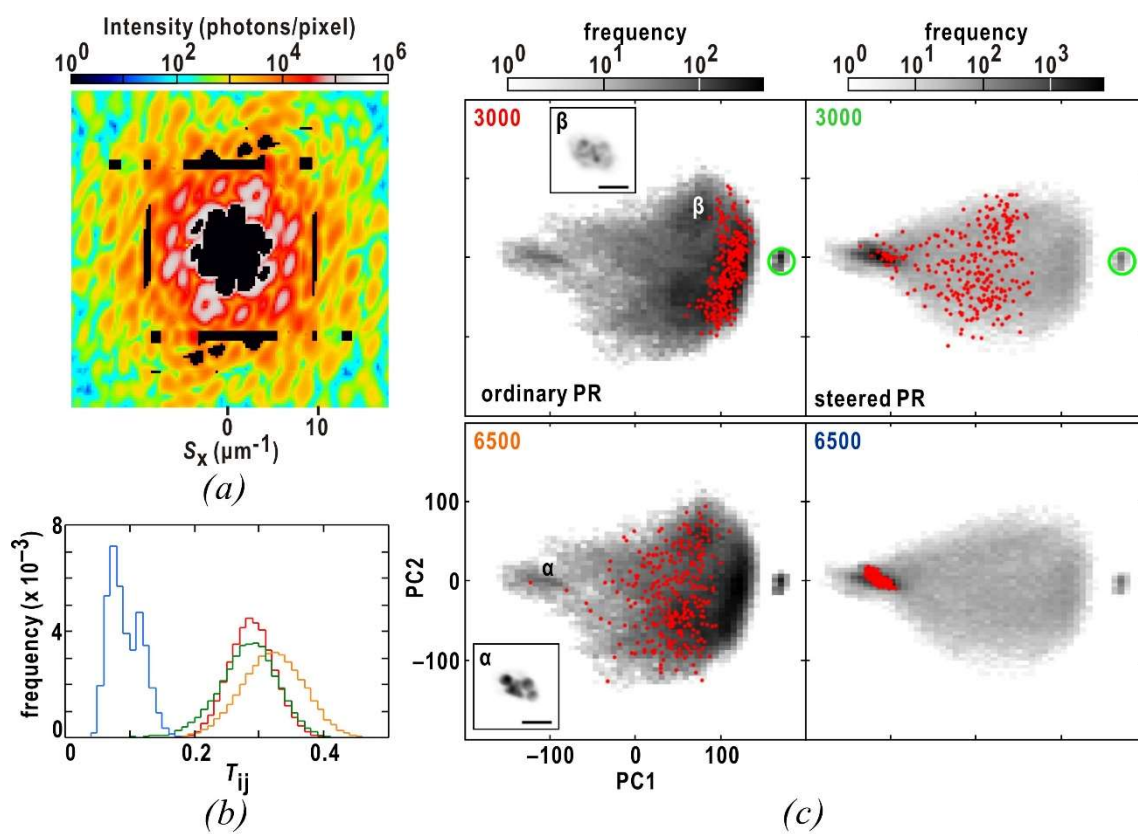


Figure S1

Comparison of the performance of the ordinary and steered calculations for the seven diffraction patterns from aggregates of colloidal gold particles (panels (a), (d), (g), (j),

(m), (p), and (s)), with the C_{sym} values greater than 0.85. The progress of the PR calculations regarding the similarity scores (panels (b), (e), (h), (k), (n), (q) and (t)) and the distributions of maps in the representative two-dimensional planes (panels (c), (f), (i), (l), (o), (r) and (u)) are illustrated as in Figure 5 in the main text. Projection electron density maps averaged in the labeled regions (panels (c), (f), (i), (l), (o), (r) and (u)) are depicted with a scale bar of 200 nm. The seven diffraction patterns in our previous work (Sekiguchi *et al.*, 2017; doi: 10.1107/S1600577517008396) were reused with approval from Journal of Synchrotron Radiation and The International Union of Crystallography.



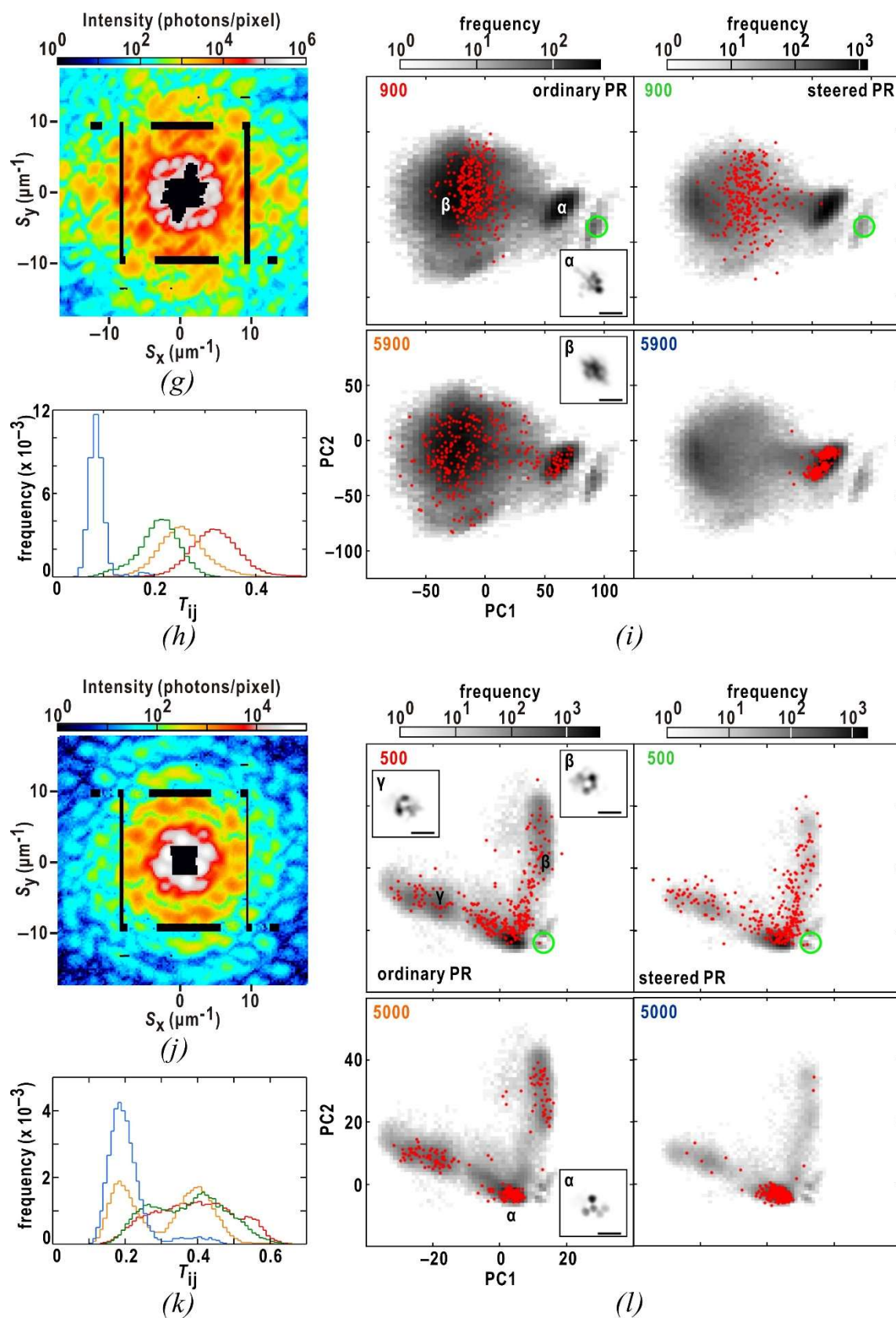


Figure S2

Comparison of the steered and ordinary PR calculations for selected four out of 163 diffraction patterns from aggregates of colloidal gold particles are illustrated as Figures 7(c-e) and (f-h) in the main text.