Fig. 7.6: **Handling multiple classes. (a)** Partially labelled input data. We have 4 labelled points for the 4 classes (different colours for different classes). **(b)** Classification results for one-v-all support vector machines. **(c)** Transduction results based on a single decision tree. Originally unlabelled points are assigned a label based on tree-induced geodesic distances. **(d)** Final semi-supervised classification posterior. Unlabelled points nicely contribute to the shape of the posterior (*e.g.* look at the elongated yellow blob). Furthermore, regions of low confidence nicely overlap regions of low data density.

inductive posterior (computed for $T = 100$) is shown in fig. 7.6d where the contribution of previously unlabelled points to the shape of the final posterior is clear. Regions of low confidence in the posterior correspond to regions of low density.