Color Plate 4

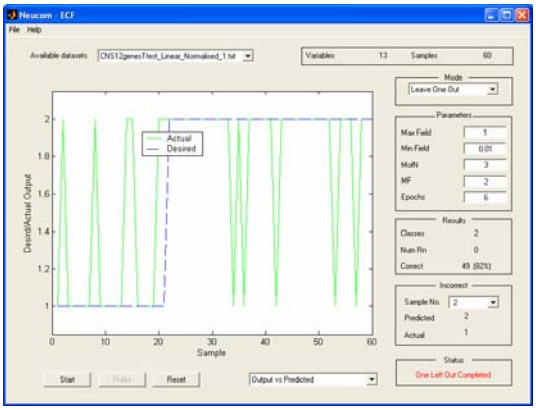

Fig. 5.10. A leave-one-cross validation method is applied to validate an ECF ECOS model on the 60 CNS cancer samples (Pomeroy et al. 2002), where 60 models are created – each one on 59 samples, after one example is taken out, and then the model is validated to classify the taken out example. The average accuracy over all 60 examples is 82%, where 49 samples are classified accurately and 11 incorrectly. Class 1 is the non-responding group (21 samples) and class 2 is the group of survivals (39 samples)

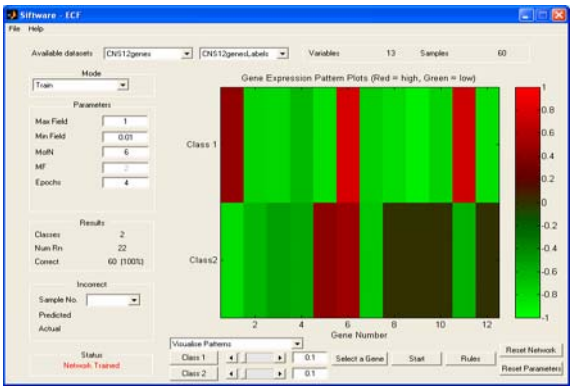

Fig. 5.11. An ECOS classifier is evolved on the 12 CNS cancer genes from Fig. 4.6. Aggregated (across all clusters) general profiles for each of the two classes are shown. The profiles, that capture the interaction between genes, show that genes 1, 5 and 11 are differently expressed across samples of each class, gene 6 is highly expressed in both classes and the other genes – lowly. This suggests an interesting interaction between some genes that possibly define the outcome of cancer of the CNS. The analysis is performed with the use of a proprietary software system SIFTWARE (www.peblnz.com)