



**Figure A2-1.** Identification of HER2+ breast cancer samples based on gene amplification in the Her2/neu amplicon chr17 q12-21. We use consensus up-regulation of the mRNA levels of the genes Her2/neu, GRB7, STARD3 and PPARB as the signature to identify HER2+ samples. As shown in the figure, we see that for each amplicon gene, there is a change in slope from a “low” expression value to a “high” expression value. The cutoff value of up-regulation for each gene is identified by linear least squares fit to these plots and is marked as a red dot in **Figures A2-1 a-e**. At least 3 of the amplicon genes (including Her2/neu) are up-regulated in the 42 samples identified as HER2+ and highlighted red in **Figure A2-1 e**. In 10 other samples (highlighted green in **Figure A2-1 e**) Her2/neu is up-regulated together with at most one other amplicon gene. In the remaining 234 samples (highlighted blue) Her2/neu is not up-regulated.

