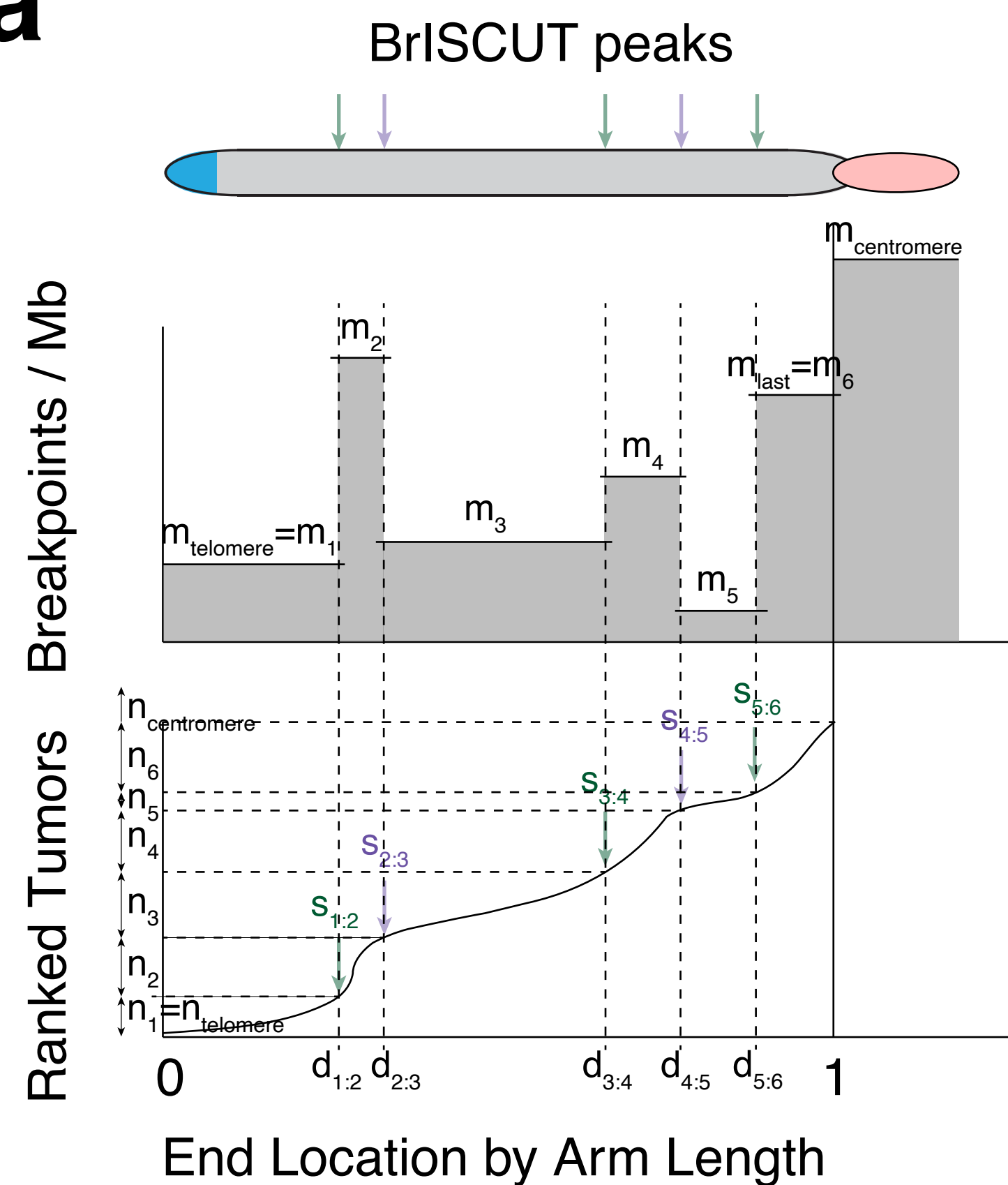


a



Selection Score

$$\text{Expected}_{i-1,i} = [B(d_{i,i+1}, \alpha, \beta) - B(d_{i-1,i}, \alpha, \beta)] * \frac{n_{i-1}}{B(d_{i-1,i}, \alpha, \beta) - B(d_{i-2,i-1}, \alpha, \beta)}$$

$$s_{i-1,i} = \frac{n_i}{\text{Expected}_{i-1,i}}$$

$$\text{positive selection score} = \prod s_{j,k}^+$$

$$\text{negative selection score} = \frac{1}{\prod s_{j,k}^-}$$

$$\text{net selection score} = \text{positive selection score} * \text{negative selection score}$$

Telomeric Mechanism Score

$$\text{telomeric mechanism score} = m_{\text{telomere}} = \frac{n_{\text{telomere}}}{B(d_{1,2}, \alpha, \beta) * \text{length of arm}} * 1,000,000$$

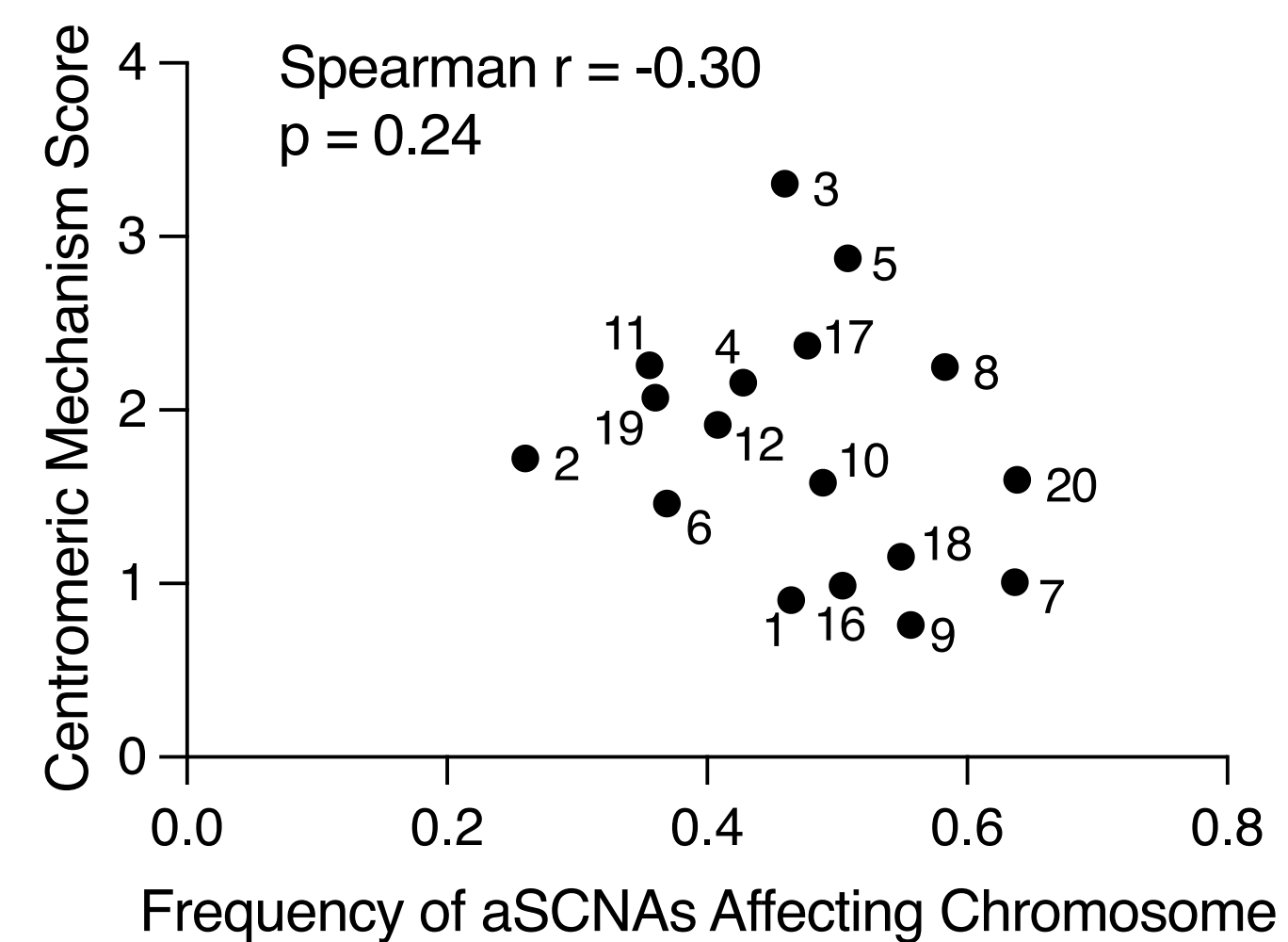
Centromeric Mechanism Score

$$m_{\text{centromere}} = \frac{n_{\text{centromere}}}{\text{length of centromere}} * 1,000,000$$

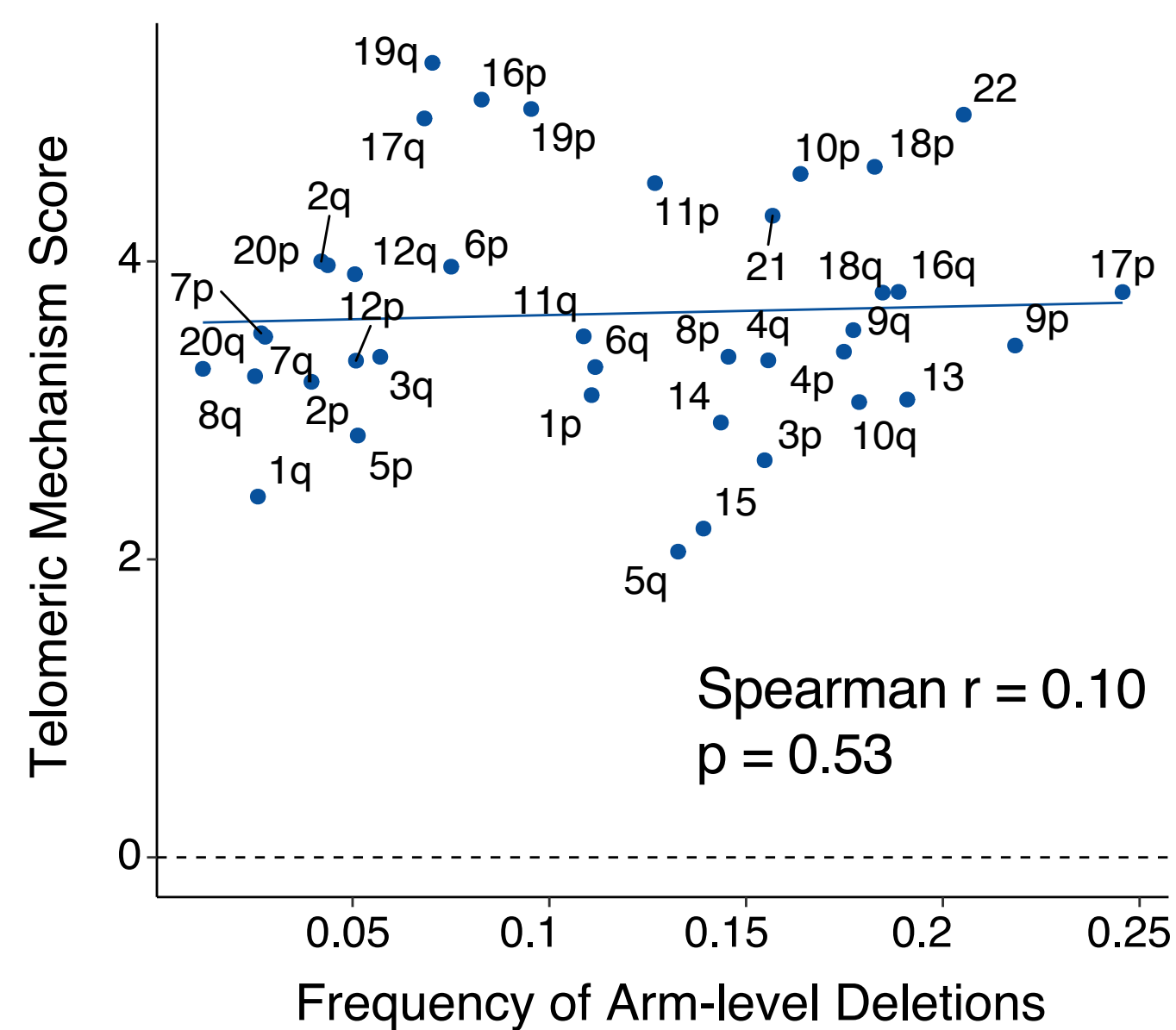
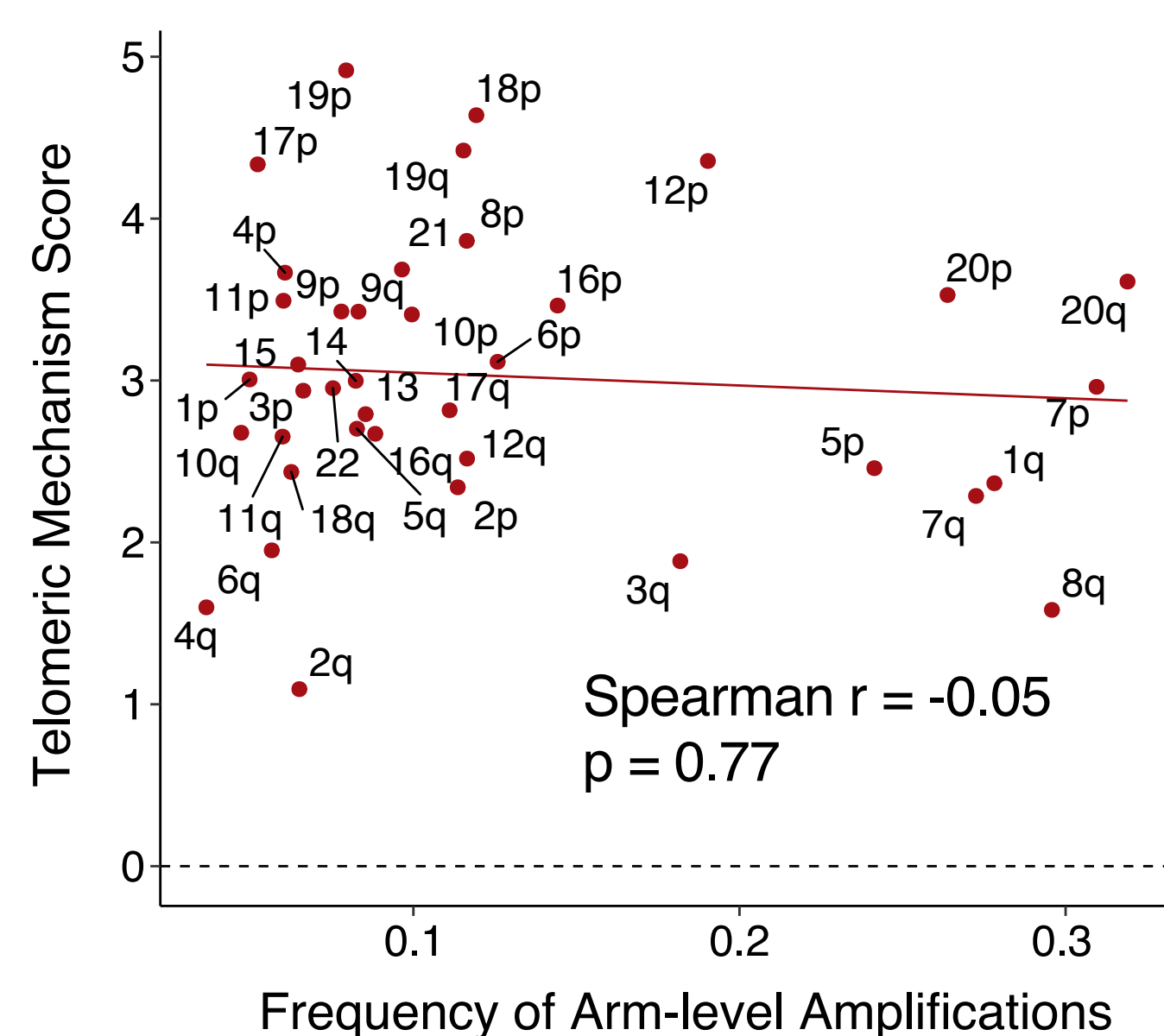
$$m_{\text{last}} = m_{\text{telomere}} * s_{1:2}^+ * s_{2:3}^+ * s_{3:4}^+ * s_{4:5}^+ * s_{5:6}^+$$

$$\text{centromeric mechanism score} = \prod \frac{m_{\text{centromere}}}{m_{\text{last}}^{p_{\text{amp}}, q_{\text{amp}}, p_{\text{del}}, q_{\text{del}}}}$$

b



c



d

