How can I perform the suitability test described in general chapter 2.5.12?

Answer:

Follow the process as described below. The sequential additions are about the same size for each step, which usually corresponds to about 50 to 100 per cent of the amount found in the sample.

1. Titrate the sample (M mg of water).

2. Add the first amount of water (x1 mg). Titrate (y1 mg).

3. Add the second amount (x2 mg). Titrate (y2 mg).

4. Add the third amount (x3 mg). Titrate (y3 mg).

5. Add the fourth amount n (x4 mg). Titrate (y4 mg).

6. Add the fifth amount (x5 mg). Titrate (y5 mg).

7. Calculate the recovery r for each addition and the mean recovery.

8. Calculate the regression line for the data :

- x-axis: cumulative water added (X1=x1; X2= x1 + x2; X3=x1 + x2 + x3; X4=x1 + x2 + x3 + x4; X5= x1 + x2 + x3 + x4 + x5)
- y-axis: sum of the initial water content determined for the substance (M) and the cumulative water determined (Y1=M + y1; Y2=M + y1 + y2; Y3=M + y1 + y2 + y3; Y4=M + y1 + y2 + y3 + y4; Y5= M + y1 + y2 + y3 + y4 + y5)

Calculate the slope (*b*), the y-intercept (*a*) and the intercept of the extrapolated calibration line with the x-axis (*d*) (which is always negative), and the percentage errors (*e1* and *e2*). In an ideal case, *a* and *d* are equal to M.