Table 4 Quantification of Erythromycin[a]

Sample no.	Expected (%)	Found (%)	Recovery (%)
1	5.0	4.14	82.20
2	5.0	4.49	89.80
3	5.0	4.24	84.80
4	5.0	4.17	83.40
5	5.0	4.45	89.00
Mean	5.0	4.30	85.80

[a]Five samples of chicken meat spiked with 5 ppm of erythromycin and tylosin.
Source: Ref. 57.

acetic acid (7:3) for cleanup. After drying, the plate was developed with ethyl acetate–acetic acid–water (6:2:2). Tylosin spots could be observed under UV light at 254 nm. For observation of erythromycin the plate was dipped in a solution of anisaldehyde and heated. Quantification was done with a scanner, for tylosin at 302 nm and erythromycin at 517 nm. The results are presented in Tables 4 and 5.

E. Tetracyclines

Tetracyclines, consisting of octahydronaphthacene skeletons, are broad-spectrum antibiotics, active against gram-positive and gram-negative bacteria. The first member of this group, chlortetracycline (CTC), was discovered in 1948. Tetracyclines are produced by *Streptomyces* or are obtained semisynthetically. Seven tetracyclines, besides chlortetracycline, are commercially available: tetracycline (TC), oxytetracycline (OTC), doxycycline (DC), minocycline (MINO), methacycline (MTC), demeclocycline (DMCTC), and rolitetracycline, methylpyrrolidine substituted tetracycline (PRMTC) (2). Tetracyclines are amphoteric compounds and form hydrates and salts with both acids and bases that are stable as powders. In solution and by exposure to light, tetracyclines are subject to rapid degradation. Tetracyclines have a propensity to form chelation complexes with metal ions, sample matrix proteins, and silanol groups. These characteristics make separation of tetracyclines and their isolation from matrixes complicated (4). Tetracyclines can be separated in both RP and NP systems. In both cases mobile phases should contain chelating agents such as Na_2EDTA, citric acid, or oxalic acid. Silica gels impregnated with EDTA or Na_2EDTA are usually used as stationary phases in normal-phase TLC. Impregnation is necessary due to strong interactions of tetracyclines with the silica gel surface. Tetracyclines give fluorescent spots that can

Table 5 Quantification of Tylosin[a]

Sample no.	Expected (%)	Found (%)	Recovery (%)
1	5.0	3.70	74.00
2	5.0	4.60	90.20
3	5.0	4.30	86.10
4	5.0	4.17	83.40
5	5.0	4.23	84.60
Mean	5.0	4.38	83.70

[a]Five samples of chicken meat spiked with 5 ppm of erythromycin and tylosin.
Source: Ref. 57.