adsorbents, the best results can be obtained if these plates are impregnated with oxalic acid (92). Silica gel F_{254} plates are used to separate citrinin with chloroform–methanol (75:25) as the solvent system (93). A benzene–methanol–acetic acid (10:2:1) system is used to elute citrinin on Kieselgel plates (94). Separated toxin can be detected as yellow fluorescent spots under UV light (94).

14. α-Cyclopiazonic Acid

α-Cyclopiazonic acid has been extracted from cornmeal, beans, pecans, and macaroni infested with *Aspergillus* and *Penicillium* species (95). Solvent systems such as chloroform–methanol (98:2), chloroform–acetone (9:1), and chloroform–methyl isobutyl ketone (4:1) are used to separate this toxin on silica gel impregnated with either oxalic acid or tartaric acid (3). Ehrlich's reagent is commonly used for the detection. Spraying with concentrated sulfuric acid followed by heating is also used (96).

15. Roquefortine

Roquefortines are secondary metabolites of the fungus *Penicillium roquefortine* and have been isolated from blue cheese (13). These toxins are eluted on silica gel TLC plates using basic solvent systems such as chloroform–methanol–25% ammonia solution (70:10:0.5) or acidic solvent systems such as toluene–ethyl acetate–formic acid (5:4:1) (97). Separated toxins can be detected as yellow spots after spraying with 50% sulfuric acid (98), whereas they turn into blue-gray spots followed by heating. They also can be visualized as green fluorescent spots under longwave UV light followed by exposure of the plates to shortwave UV light for about 30 s (97).

16. Xanthomegnin, Viomellein, Vioxanthin

Xanthomegnin, viomellein, and vioxanthin are toxic metabolites of a variety of fungi including *Penicillium* and *Aspergillus*. They are eluted on silica gel using benzene–methanol–acetic acid (18:1:1) or toluene–ethyl acetate–formic acid (6:3:1) (9). Xanthomegnin can be detected as yellow-orange spots after allowing the plates to stand for about 6 h, whereas viomellein spots can change from yellow-green to yellow-brown (99).

17. Naphtho-γ-Pyrones

Naphtho-γ-pyrones have been extracted from the mycelia of the fungus *Aspergillus niger* and from food commodities such as rice, corn, and cottonseed infested with this fungus (3). Benzene–ethyl acetate–formic acid (10:4:1) is used as the solvent to elute these toxins on LHP-KF plates by HPTLC (100). They can be detected as yellow, violet, or orange spots under longwave UV light, whereas derivatives of naphtho-γ-pyrones such as flavasperone; fonsecin monomethyl ether; rubrofusarin; aurasperone A, B, C, and D; and isoaurasperone A can produce different colors after spraying with Gibbs reagent.

18. Fusarin

Commonly found fusarin C is mutagenic. The fusarins are mainly produced by *Fusarium moniliforme* and are extracted with water and methylene chloride–2-propanol (1:1). After spotting on silica gel TLC plates, they are separated using chloroform–methanol (9:1) or chloroform–isopropanol (9:1) as solvent. The separated toxins are detected under UV light as bright yellow spots (101,102).

19. Cyclosporin

Cyclosporin toxin can be separated on silica gel plates by developing in butanol–acetic acid–water (4:1:1) (108). Separated toxins can be detected as orange-brown spots after treatment with ninhydrin solution.

20. Fumonisins

Fumonisins are the secondary metabolic products of mycotoxins produced by the fungus *Fusarium proliferatum*. They persist in harvested and stored grains and grow well when moisture levels become favorable. They cause diseases in crops and also have a carcinogenic effect associated with toxigenic effects such as leukoencephalomalacia in animals (104). Because fumonisins do not have characteristic chromophores for absorption in the UV–visible range, it is necessary to