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Metal Oxides in Sample Pretreatment

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Highlights

- We discussed the properties of metal oxides as sample pretreatment materials.
- We surveyed preparation and applications of metal oxides in sample pretreatment.
- We discussed the merits and existed problems of metal oxides for sample pretreatment.
- We discussed the possible trends of metal oxides in sample pretreatment.

Abstract

Sample pretreatment is a fundamental and essential step in almost all analytical procedures, especially for the analysis of biological and environmental samples with complex matrix. In the past decades, with the advantages of good selectivity, high binding capacity, and good stability, metal oxides have been applied in sample pretreatment in a variety of areas, including biological, pharmaceutical, clinical, toxicological, food and environmental analysis. Here the recent advancements of metal oxides-based sample pretreatment were reviewed, with especial focus on the preparation and applications of metal oxides for sample pretreatment. In addition, the existed problems and possible trends of metal oxides for sample pretreatment in the future are proposed.

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