

บรรณานุกรม

1. K. W. Kolasinski. *Surface science*. New York: John Wiley & Sons, 2002, 192-193.
2. N. J. K. Simpson. *Solid-phase extraction: principle, techniques, and applications*.
New York: Marcel Dekker, 2000, 2-3, 10-50.
3. A. W. Adamson and A. P. Gast. *Physical chemistry of surfaces*. 6th ed, New York:
John Wiley & Sons, 1997, 390-398.
4. A. Berthod. Silica: backbone material of liquid chromatographic column packing. *J.*
Chromatogr., 1991, **549**, 1-28.
5. R. K. Iler. *The chemistry of silica*. New York: John Wiley & Sons, 1979, 130-135, 174-
176, 185, 467.
6. L. H. Larry, J. K. West. The Sol-Gel process. *Chem. Rev.*, 1990, 90, 33-72.
7. A. Kukovecz, Z. Balogi, Z. Konya, M. Toba, P. Lentz, S.-I. Niwa, F. Mizukamib, A.
Molnar, J. B. Nagy and I. Kiricsi. Synthesis, characterisation and catalytic
8. V. Camel. Solid phase extraction of trace elements. *Spectrochimica Acta Part B*,
2003, **58**, 1177-1233.
9. E. M. Thurman and M. S. Mills. *Solid - phase extraction*, New York: John Wiley &
Sons, 1998, 29, 35-73.

10. O. Lev. Diagnostic applications of organically doped sol-gel porous glass. *Analysis*, 1992, **20**, 543-553.
11. A. Khan, F. Mahmood, S. Ahmed and M. Y. Khokhar. Removal of Cd ions by sol-gel silica doped with 1-(2-pyridylazo)-2-naphthol. *J. Sol-gel Sci. Techn.*, 2003, **27**, 221-224.
12. A. Khan, S. Ahmed, F. Mahmood, M.Y. Khokhar and M. Riaz. Efficacy of a new tan doped sol-gel sorbent for uptake of zinc. *Radiochim. Acta.*, 2003, **91**, 413-418.
13. B. Rusdiarso, A. Messaoudi and J.-P. Brunette. Synergistic extraction of cobalts(II) from cesium containing aqueous solution with mixtures of 4-acyl-pyrazol-5-ols and crown ethers. *Talanta*, 1993, **40**, 805-809.
14. Sigit, G. J. Goetz-Grandmont and J.-P. Brunette. Liquid-liquid extraction of cadmium and cobalt with mixtures of 1-phenyl-3-methyl-4-stearoyl-5-hydroxypyrazole (HPMSP) and n-dodecylamine (DDA) in toluene. *Monatsh. Chem.*, 1998, **129**, 787-797.
15. A. Intasiri. *4-Acylpyrazolone doped silica: synthesis, characterization, metal complexation and application to preconcentration*. Doctoral Dissertation, Department of Chemistry, Faculty of Science, Université Louis Pasteur, 2000.
16. W. Stumm. *Chemistry of the solid-water interface processes at the mineral-water and particle-water interface in natural systems*. New York: John Wiley & Sons, 1992, 90-96.

applications of sol-gel derived silica-phosphotungstic acid composites. *Appl. Catal. A.*, 2002, **228**, 83-94.

17. P. C. Jeronimo, A. N. Araujo and M. C. Montenegro. Development of a sol-gel optical sensor for analysis of zinc in pharmaceuticals. *Sens. Actuators. B.*, 2004, **103**, 169-177.

18. C. T. Kresge, M. E. Leonowicz, W. J. Roth, J. C. Vartuli and J. S. Beck. Ordered mesoporous molecular sieves synthesised by a liquid-crystal template mechanism. *Nature*, 1992, **359**, 710-712.

19. J. S. Beck, J. C. Vartuli, W. J. Roth, M. E. Leonowicz, C. T. Kresge, K. D. Schmitt, C. T. -W. Chu, D. H. Olson, E. W. Sheppard, S. B. McCullen, J. B. Higgins and J. L. Schlenker. A new family of mesoporous molecular sieves prepared with liquid crystal templates. *J. Am. Chem. Soc.*, 1992, **114**, 10834-10843.

20. D. A. Skoog and J. J. Leary. *Principle of instrumental analysis*. 4th ed. New York: Saunders College, 1992, 128, 363-364, 394-399.

21. P. B. Coleman. *Practical sampling techniques for infrared analysis*. Boca Raton: CRC Press, 1993, 12-13.

22. K. Nakanishi and P. H. Solomon. *Infrared absorption spectroscopy*. 2nd ed. San Francisco: Holden-Day, Inc., 1977, 50-60.

23. J. C. Stoven. *Optical scattering: measurement and analysis*. New York: Spie Optical Engineering Press, 1995, 95-100.
24. C.-Y. Chen, S. L. Burkett, H.-X. Li and M. E. Davis. Studies on mesoporous materials II. Synthesis mechanism of MCM-41. *Micropor. Mater.*, 1993, **2**, 27-34.
25. Q. Huo, D. I. Margolese, U. Ciesla, P. Feng, T. E. Gier, P. Sieger, R. Leon, P. Petroff, F. Schuth and G. D. Stucky. Generalized synthesis of periodic surfactant inorganic composite-materials. *Nature*, 1994, **368**, 317.
26. Q. Huo, D. I. Margolese, U. Ciesla, D. G. Demuth, P. Feng, T. E. Gier, P. Sieger, A. Firouzi, B. F. Chmelka, F. Schuth and G. D. Stucky. Organization of organic molecules with inorganic molecular species into nanocomposite biphasic arrays. *Chem. Mater.*, 1994, **6**, 1176-1191.
27. K. S. W. Sing, D. H. Everett, R. A. W. Haul, L. Moscou, R. A. Pierotti, J. Rouquerol and T. Siemieniowska. Reporting physisorption data for gas/solid systems with special reference to the determination of surface area and porosity. *Pure Appl. Chem.*, 1985, **57**, 603-619.
28. R. D. Bruan. *Introduction to instrumental analysis*. New York: R. R. Donnelly & Sons company, 1999, 58-65.

29. A. Tong, Y. Akama and S. Tanaka. Pre-concentration of copper, cobalt and nickel with 3-methyl-1-phenyl-4-stearoyl-5-pyrazolone loaded on silica gel. *Analyst*, 1990, **115**, 947-949.
30. A. Boos, A. Intasiri, J.-P. Brunette and M. J. F. Leroy. Surfactant-templated silica doped with 1-phenyl-3-methyl-4-stearoylpyrazole-5-one (HPMSP) as a new sorbent. *J. Mater, Chem.*, 2002, **12**, 886-889.