Six different arylhydrazone derivatives of p-aminobenzoic hydrazide of vic-dioximes were synthesized by reaction of chloroglyoxime and dichloroglyoxime with N’-p-aminobenzoyl benzaldehyde, 4-hydroxybenzaldehyde and 4-methoxybenzaldehyde hydrazones, respectively. Metal-ligand (1 : 2) complexes of vic-dioxime derivatives with Cu(II), Ni(II) and Co(H) were prepared from corresponding metal acetates. The ligands and their complexes were characterized on the basis of elemental analyses and spectral data. The complexing abilities of these new vic-dioximes toward transition metals of Co(II), Cu(II), Ni(II), Zn(II), Cd(II), Mn(II) and Cr(III) were determined by solid-liquid extraction studies.