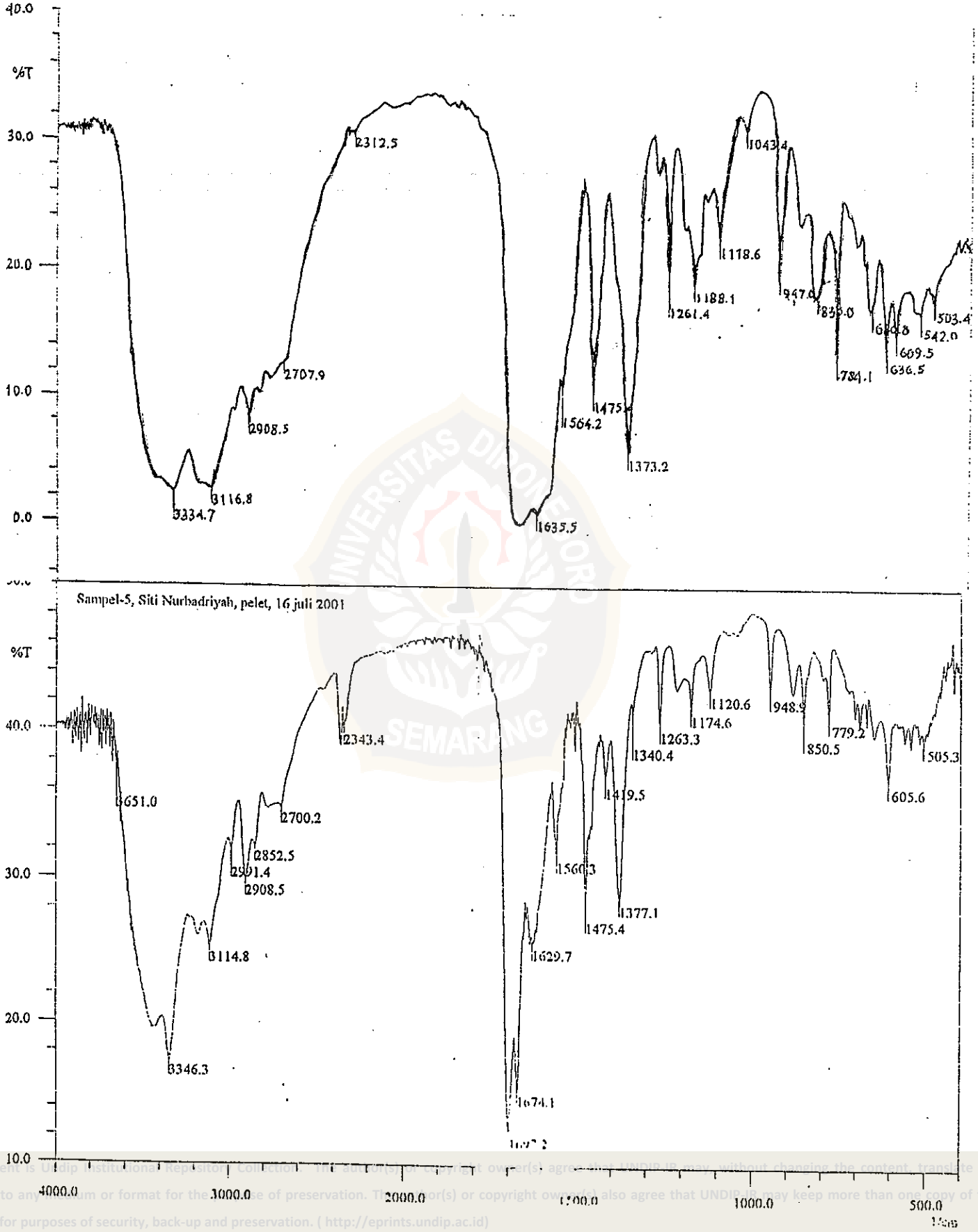
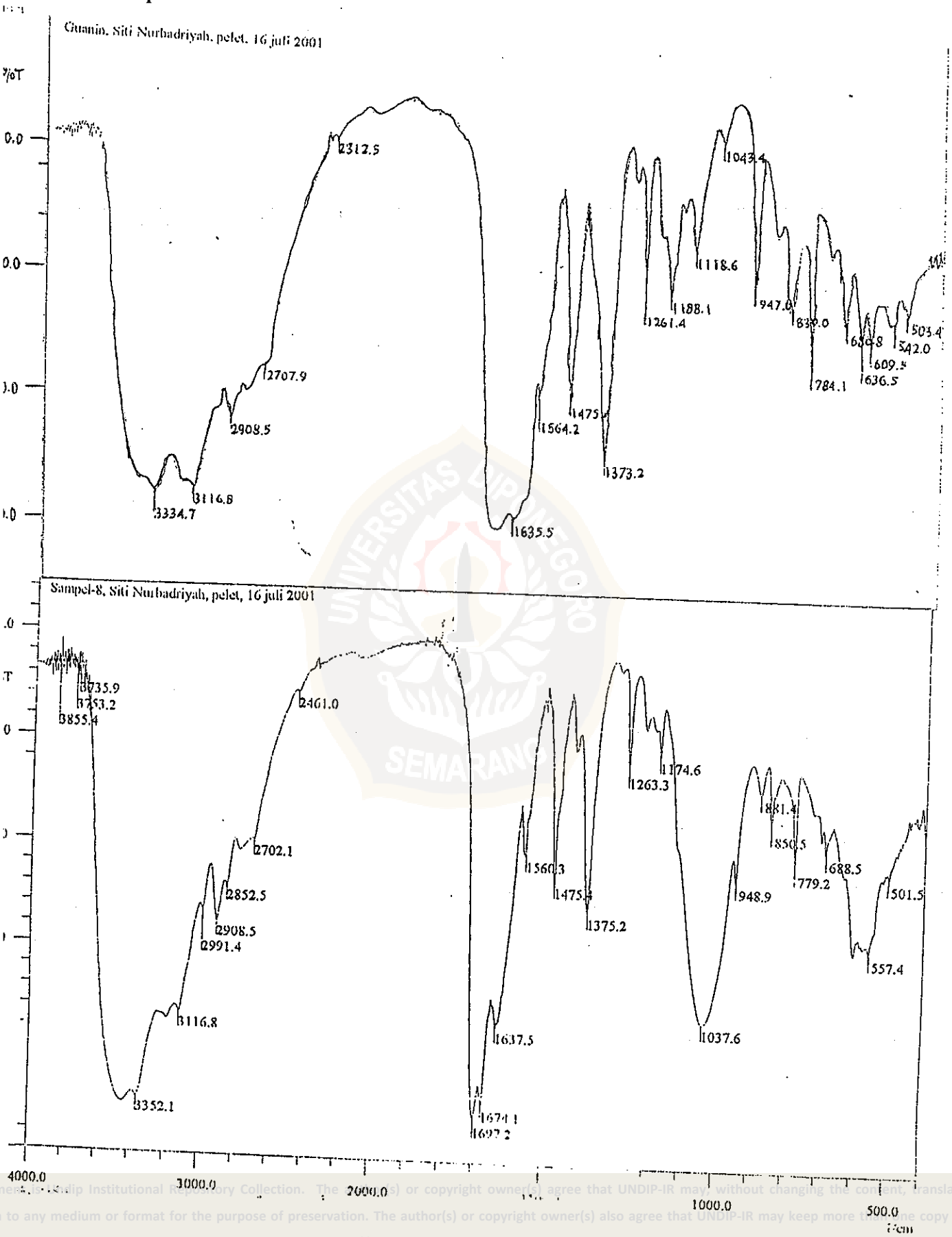
Lamp. 1. Perbandingan Spektra Guanin Murni dengan Cd(II)guanin pada pH = 5



Lamp. 2. Perbandingan Spektra Guanin Murni dengan Cd(II)guanin pada pH = 8



Lamp. 3. Tabel Klasifikasi Asam Keras-Lunak dan Basa Keras-Lunak

Table 7.8 Classification of hard and soft acids

Hard acids

H^+, Li^+, Na^+, K^+ (Rb^+, Cs^+)
Be^{+2}, $Be(CH_3)_2$, Mg^{+2}, Ca^{+2}, Sr^{+2} (Ba^{+2})
Sc^{+3}, La^{+3}, Ce^{+4}, Gd^{+3}, Lu^{+3}, Th^{+4}, U^{+4}, UO_2^{+2}, Pu^{+4}
Ti^{+4}, Zr^{+4}, Hf^{+4}, VO^{+2}, Cr^{+3}, Cr^{+6}, MoO^{+3}, WO^{+4}, Mn^{+2}, Mn^{+7}, Fe^{+3}, Co^{+3}
BF_3, BCl_3, $B(OR)_3$, Al^{+3}, $Al(CH_3)_3$, $AlCl_3$, AlH_3, Ga^{+3}, In^{+3}
CO_2, RCO^+, NC^+, Si^{+4}, Sn^{+4}, CH_3Sn^{+3}, $(CH_3)_2Sn^{+2}$
N^{+5}, RPO_2^+, $ROPO_2^+$, As^{+3}
SO_3, RSO_2^+, $ROSO_2^+$
Cl^{+3}, Cl^{+7}, I^{+5}, I^{+7}
HX (hydrogen-bonding molecules)

Borderline acids

Fe^{+2}, Co^{+2}, Ni^{+2}, Cu^{+2}, Zn^{+2}
Rh^{+3}, Ir^{+3}, Ru^{+3}, Os^{+2}
$B(CH_3)_3$, GaH_3
R_3C^+, $C_6H_5^+$, Sn^{+2}, Pb^{+2}
NO^+, Sb^{+3}, Bi^{+3}
SO_2

Soft acids

$Co(CN)_5^{-3}$, Pd^{+2}, Pt^{+2}, Pt^{+4}
Cu^+, Ag^+, Au^+, Cd^{+2}, Hg^+, Hg^{+2}, CH_3Hg^+
BH_3, $Ga(CH_3)_3$, $GaCl_3$, $GaBr_3$, GaI_3, Tl^+, $Tl(CH_3)_3$
CH_2, carbenes
Pi-acceptors: trinitrobenzene, chloroanil, quinones, tetracyanoethylene, etc.
HO^+, RO^+, RS^+, RSe^+, Te^{+4}, RTe^+
Br_2, Br^+, I_2, I^+, ICN, etc.
O, Cl, Br, I, N, RO·, RO_2·
M^0 (metal atoms) and bulk metals

Table 7.9 Classification of hard and soft bases

Hard bases

NH_3, RNH_2, N_2H_4
H_2O, OH^-, O^{-2}, ROH, RO^-, R_2O
CH_3COO^-, CO_3^{-2}, NO_3^-, PO_4^{-3}, SO_4^{-2}, ClO_4^-
F^- (Cl^-)

Borderline bases

$C_6H_5NH_2$, C_5H_5N, N_3^-, N_2
NO_2^-, SO_3^{-2}
Br^-

Soft bases

H^-
R^-, C_2H_4, C_6H_6, CN^-, RNC, CO
SCN^-, R_3P, $(RO)_3P$, R_3As
R_2S, RSH, RS^-, $S_2O_3^{-2}$
I^-