ꯑꯦꯗꯤꯇꯣꯔꯤꯌꯦꯜ IMPHAL, WEDNESDAY, OCTOBER 19, 2022 ꯌꯨꯝꯁꯀꯩꯁ, ꯃꯦꯔꯥꯒꯤ 24ꯅꯤ ꯄꯥꯟꯕ, ꯃꯥꯂꯤꯌꯥ ꯀꯨꯝꯁꯤꯡ 3420 obT\ꯂꯩ ꯃꯀꯩꯋ꯭ꯀ 2 HUEIYEN LANPAO

ꯄꯥꯎꯆꯦ ꯑꯁꯤꯗ ꯐꯣꯡꯖꯔꯤꯕ ꯋꯥꯔꯦꯡꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯋꯥꯈꯜ, ꯃꯤꯠꯌꯦꯡ ꯑꯏꯕ ꯃꯁꯥ ꯃꯁꯥꯒꯤꯅꯤ꯫ ꯄꯥꯎꯆꯦ ꯑꯁꯤꯒ ꯄꯥꯎꯆꯦ ꯑꯁꯤꯒꯤ ꯋꯥꯈꯜꯂꯣꯟ ꯑꯃꯁꯨꯡ ꯃꯤꯠꯌꯦꯡꯒ ꯊꯣꯏꯗꯣꯛꯅ ꯃꯔꯤ ꯂꯩꯅꯗꯦ꯫

ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ
ꯌꯨꯝꯁꯀꯩꯁ, ꯑꯣꯛꯇꯣꯕꯔ 19, 2022, ꯏꯝꯐꯥꯜ
14 ꯁꯨꯕ ꯆꯍꯤ, 179 ꯁꯨꯕ ꯃꯁꯤꯡ
ꯗꯤꯃꯣꯀ꯭ꯔꯦꯁꯤꯒꯤ ꯃꯈꯨꯠ 3
ꯊꯣꯡ ꯃꯥꯟꯅꯗꯕ ꯌꯥꯎꯔꯛꯂꯕ꯭ꯔꯥ
ꯂꯩꯕꯥꯛꯁꯤꯗ ꯆꯠꯅꯔꯤꯕ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤ ‘ꯗꯤꯃꯣꯀ꯭ꯔꯦꯁꯤ’ ꯅꯤ꯫

ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤ ꯖꯅ꯭ꯌꯨꯋꯥꯔꯤ 26, 1950 ꯗꯒꯤ ꯆꯠꯅꯔꯛꯄꯅꯤ꯫
ꯍꯧꯖꯤꯛꯁꯨ ꯆꯠꯅꯔꯤ, ꯃꯈꯥ ꯇꯥꯅꯁꯨ ꯆꯠꯅꯈꯤꯒꯅꯤ꯫ ꯃꯔꯝ ꯑꯁꯤꯅ
lEzaKoN ꯃꯈꯜ ꯑꯁꯤ ꯀꯔꯤꯅꯣ? ꯀꯔꯝꯕ ꯂꯩꯉꯥꯛꯂꯣꯟꯅꯣ ꯍꯥꯏꯕꯔꯣꯝꯗ
ꯁꯟꯗꯣꯛꯅ ꯄꯜꯂꯨꯗ꯭ꯔꯕꯁꯨ ꯃꯤꯄꯨꯝ ꯇꯤꯡꯅ ꯈꯪꯅꯔꯕꯅꯤ ꯍꯥꯏꯕ ꯌꯥꯔꯦ
ꯈꯜꯂꯤ꯫ ꯑꯗꯨꯒ ꯗꯦꯃꯣꯀ꯭ꯔꯦꯁꯤ ꯍꯥꯏꯔꯤꯕ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤꯒꯤ ꯃꯔꯨ
ꯑꯣꯏꯕ ꯄꯥꯔꯠ (ꯁꯔꯨꯛ) ꯁꯤꯡꯅ ꯂꯦꯖꯤꯁꯂꯦꯆꯔ, ꯖ꯭ꯌꯨꯗꯤꯁꯤꯌꯥꯔꯤ
ꯑꯃꯁꯨ ꯑꯦꯛꯖꯤꯀ꯭ꯌꯨꯇꯤꯚꯅꯤ꯫ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤ ꯆꯠꯄ ꯃꯥꯂꯦꯝꯒꯤ
ꯂꯩꯕꯥꯛꯁꯤꯡꯒꯤ ꯃꯅꯨꯡꯗ ‘ꯏꯟꯗꯤꯌꯥ’ ꯅ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯆꯥꯎꯕ
ꯂꯩꯕꯥꯛꯅꯤ ꯑꯃꯁꯨꯡ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤꯒꯤ ꯋꯥꯍꯟꯊꯣꯛ ꯃꯌꯦꯛ ꯁꯦꯡꯅ
ꯂꯩꯍꯟꯕ ꯂꯩꯉꯥꯛꯅꯤ ꯍꯥꯏꯗꯨꯅ ‘ꯃꯤꯗꯤꯌꯥ’ ꯕꯨꯁꯨ ꯂꯩꯉꯥꯛ ꯃꯈꯜꯁꯤꯒꯤ
ꯃꯔꯤꯁꯨꯕ ꯄꯥꯔꯠ (ꯁꯔꯨꯛ) ꯅꯤ ꯍꯥꯏꯕꯒꯤ ꯋꯥꯐꯝꯁꯨ ꯂꯩꯔꯤ꯫ ꯑꯗꯨꯕꯨ
ꯍꯧꯖꯤꯛ ꯐꯥꯎꯕꯗꯗꯤ ꯂꯩꯉꯥꯛꯂꯣꯟ ꯑꯁꯤꯅ ꯃꯤꯗꯤꯌꯥꯒꯤ ꯑꯄꯥꯛꯄ
ꯐꯤꯗꯥ ꯑꯃ ꯄꯤꯕꯒꯤ ꯐꯤꯚꯝꯗꯤ ꯑꯣꯏꯗ꯭ꯔꯤ꯫ ꯂꯦꯖꯤꯁꯂꯦꯆꯔ,
ꯖ꯭ꯌꯨꯗꯤꯁꯤꯌꯥꯔꯤ ꯑꯃꯁꯨꯡ ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯇꯤꯚꯁꯤꯡꯒꯤꯀ ꯃꯥꯏꯀꯩꯗꯒꯤ
ꯍꯥꯏꯖꯕꯒꯤ ꯋꯥꯅꯤ꯫ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤꯒꯤ ꯌꯥꯡꯂꯦꯟ ꯁꯔꯨ ꯑꯣꯏꯔꯤꯕ
ꯀꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟꯗ ꯌꯥꯎꯕ/ꯄꯟꯕ ꯅꯠꯇꯦ꯫ ꯑꯀꯛꯅꯕ ꯄ꯭ꯔꯣꯚꯤꯖꯟ
ꯑꯃ ꯁꯦꯝꯗꯨꯅ ꯍꯥꯞꯂꯒ ꯌꯥꯎꯍꯟꯕ ꯅꯠꯇ꯭ꯔꯤ꯫ ꯍꯣꯏ, ꯃꯤꯗꯤꯌꯥꯅ
ꯗꯦꯃꯣꯀ꯭ꯔꯦꯁꯤꯒꯤ ꯃꯔꯤꯁꯨꯝꯕ ꯌꯨꯝꯕꯤ ꯑꯃ ꯑꯣꯏꯕ/ꯑꯣꯏꯗꯕꯒꯤ ꯋꯥꯐꯝ
ꯇꯔꯥꯏꯊꯣꯛꯈ꯭ꯔꯒ ꯂꯩꯉꯥꯛꯂꯣꯟꯁꯤꯒꯤ ꯌꯨꯝꯐꯝ ꯀꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟꯗꯁꯨ
ꯃꯌꯦꯛ ꯁꯦꯡꯅ ꯌꯥꯎꯖꯔꯕ ꯂꯦꯖꯤꯁꯂꯦꯆꯔ, ꯖ꯭ꯌꯨꯗꯤꯁꯤꯌꯥꯔꯤ ꯑꯃꯁꯨꯡ
ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯇꯤꯚ ꯍꯥꯏꯔꯤꯕ ꯃꯔꯨ ꯑꯣꯏꯕ ꯈꯨꯠ ꯑꯍꯨꯝꯁꯤꯒꯤ ꯃꯅꯨꯡꯗ
ꯑꯃꯒ ꯑꯃꯒꯒꯤ ꯃꯔꯛꯇ ꯑꯟꯗꯔꯁ꯭ꯇꯦꯟꯗꯤꯡ ꯂꯩꯅꯔꯕ꯭ꯔꯥ, ꯑꯃꯒ
ꯑꯃꯒ ꯈꯨꯠꯃꯥꯟꯅꯔꯕ꯭ꯔꯥ ꯍꯥꯏꯕꯒꯤ ꯋꯥꯍꯪꯗꯤ ꯏꯟꯗꯤꯌꯥ ꯄꯨꯝꯕꯒꯤ ꯑꯣꯏꯅ
ꯍꯪꯕ ꯌꯥꯕ ꯋꯥꯍꯪ ꯑꯣꯏꯔꯤ꯫ ꯊꯣꯏꯗꯣꯛ ꯍꯦꯟꯗꯣꯛꯅ ꯃꯅꯤꯄꯨꯔꯗꯗꯤ
ꯋꯥꯍꯪꯁꯤꯒꯤ ꯆꯞ ꯆꯥꯕ ꯄꯥꯎꯈꯨꯝ ꯊꯤꯕꯒꯤ ꯃꯊꯧ ꯇꯥꯔꯤ꯫
ꯋꯥꯍꯪꯁꯤ ꯑꯄꯤꯛꯄ ꯋꯥꯍꯪ ꯅꯠꯇꯦ, ꯑꯆꯧꯕꯅꯤ꯫ ꯑꯗꯨꯕꯨ ꯄꯥꯎꯈꯨꯝ
ꯄꯥꯝꯂꯤꯕ ꯋꯥꯍꯪꯁꯤꯒꯤ ꯃꯅꯨꯡꯗ ꯑꯃꯨꯛ ꯊꯣꯔꯛꯂꯤꯕꯅ ꯈꯨꯠ ꯑꯍꯨꯝꯁꯤꯒꯤ
ꯃꯅꯨꯡꯗ ꯂꯦꯖꯤꯁꯂꯦꯆꯔꯒ ꯖ꯭ꯌꯨꯗꯤꯁꯤꯌꯥꯔꯤꯒꯒꯤ ꯃꯔꯛꯇꯗꯤ ꯊꯣꯏꯗꯣꯛꯅ
ꯍꯤꯛꯀꯣꯝꯅꯕ, ꯌꯥꯆꯜ ꯆꯥꯗꯕ, ꯊꯣꯡ ꯃꯥꯟꯅꯗꯕ ꯀꯣꯝꯗ꯭ꯔꯥꯛꯅꯕꯒꯤ ꯊꯧꯗꯧ
ꯊꯣꯛꯆꯤꯜꯂꯛꯂꯕꯁꯨ ꯇꯣꯏꯅ ꯍꯛꯊꯦꯡꯅꯗ꯭ꯔꯤ꯫ ꯑꯗꯨꯕꯨ ꯖ꯭ꯌꯨꯗꯤꯁꯤꯌꯥꯔꯤꯒ
ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯁꯤꯚꯡꯒꯒꯤ ꯃꯔꯛꯇꯗ ꯈꯨꯠꯃꯥꯅꯗꯕ, ꯑꯃꯒꯤ ꯊꯕꯛ
ꯑꯃꯅ ꯃꯁꯛ ꯈꯪꯗꯕ, ꯖꯨꯗꯤꯁꯤꯌꯥꯔꯤꯅ ꯂꯣꯒꯤ ꯃꯇꯨꯡ ꯏꯟꯅ ꯋꯥꯌꯦꯜ
ꯆꯠꯊꯔꯒ ꯄꯤꯔꯛꯄ ꯗꯤꯔꯦꯛꯁꯟ ꯑꯃꯁꯨꯡ ꯂꯧꯔꯛꯄ ꯋꯥꯔꯦꯞꯁꯤꯡ
ꯃꯔꯤ ꯂꯩꯅꯕ ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯇꯤꯚꯁꯤꯡꯅ ꯊꯕꯛꯇ ꯑꯣꯟꯊꯣꯛꯇꯕꯒꯤ
ꯊꯧꯗꯣꯛꯁꯤꯡ ꯌꯥꯝꯅ ꯇꯣꯏꯅ ꯊꯣꯛꯏ꯫ ꯍꯥꯏꯔꯤꯕ ꯊꯣꯔꯛꯍꯟꯐꯝ
ꯊꯣꯛꯇꯕ ꯊꯧꯗꯣꯛꯁꯤꯡ ꯑꯁꯤ ꯑꯗꯨꯛꯀꯤ ꯃꯇꯤꯛ ꯃꯁꯤꯡ ꯂꯥꯛꯉꯝꯗꯅ
ꯊꯣꯛꯂꯤ ꯍꯥꯏꯕꯒꯤ ꯆꯞ ꯆꯥꯕ ꯈꯨꯗꯝ ꯆꯥꯡꯗꯝꯁꯤꯡꯅ ꯍꯧꯖꯤꯛ ꯁ꯭ꯇꯦꯠ
ꯄꯨꯝꯅꯃꯛꯀꯤ ꯍꯥꯏ ꯀꯣꯔꯠꯁꯤꯡ ꯑꯁꯨꯡ ꯃꯈꯣꯏꯒꯤ ꯁꯕꯣꯔꯗꯤꯅꯦꯠ
ꯀꯣꯔꯠꯁꯤꯡ ꯑꯃꯁꯨꯡ ꯁꯨꯄ꯭ꯔꯤꯝ ꯀꯣꯔꯠꯇ ꯄꯟꯗꯨꯅ ꯂꯩꯔꯤꯕ ꯇꯣꯉꯥꯟ-
ꯇꯣꯉꯥꯟꯕ ꯀꯦꯁꯁꯤꯡ ꯑꯃꯁꯨꯡ ꯋꯥꯌꯦꯜ ꯆꯠꯊꯔꯤꯕ ꯀꯦꯁꯁꯤꯡ ꯑꯁꯤꯅ
ꯆꯞ ꯆꯥꯕ ꯁꯛꯇꯝꯅꯤ꯫ ꯄꯤꯛꯂꯕ ꯃꯅꯤꯄꯨꯔꯒꯤ ꯑꯣꯏꯅ ꯌꯦꯡꯂꯨꯔꯕꯁꯨ
ꯍꯥꯏ ꯀꯣꯔꯠ ꯑꯣꯐ ꯃꯅꯤꯄꯨꯔꯗ ꯈꯛꯇ ꯅꯠꯇꯅ ꯂꯋꯥꯔ ꯀꯣꯔꯠꯁꯤꯡꯗ
ꯁ꯭ꯇꯦꯠꯀꯤ ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯇꯤꯚꯁꯤꯡꯒ ꯃꯔꯤ ꯂꯩꯅꯕ ꯀꯦꯁ ꯀꯌꯥ
ꯆꯅꯩꯅꯗꯨꯅ ꯂꯩꯔꯤ꯫ ꯀꯦꯁꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯃꯅꯨꯡꯗꯒꯤ ꯗꯤꯁꯄꯣꯖ ꯇꯧꯔꯕ
ꯀꯦꯁꯁꯤꯡꯒꯤꯅ ꯃꯔꯤ ꯂꯩꯅꯕ ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯇꯤꯚꯁꯤꯡꯅ ꯀꯦꯁꯇꯨꯒ
ꯃꯔꯤ ꯂꯩꯅꯅ ꯄꯤꯔꯛꯄ ꯑꯣꯔꯗꯔꯁꯤꯡ (ꯗꯤꯔꯦꯛꯁꯤꯡꯁꯤꯡ) ꯊꯕꯛꯇ
ꯑꯣꯟꯊꯣꯛꯄ ꯌꯥꯎꯏ꯫ ꯑꯗꯨꯒ ꯄꯤꯐꯝ ꯊꯣꯛꯄ ꯀꯝꯄ꯭ꯂꯥꯏꯌꯦꯟꯁ
ꯄꯤꯗꯕꯒꯤ ‘ꯀꯝꯇꯦꯝꯄꯠ ꯑꯣꯐ ꯀꯣꯔꯠ’ ꯀꯤ ꯄ꯭ꯔꯣꯁꯤꯗꯤꯡ
ꯂꯧꯈꯠꯄꯤꯅꯕ ꯋꯥꯀꯠꯅꯔꯛꯄꯁꯨ ꯀꯣꯡꯒꯥꯏꯅꯤ꯫ ꯑꯀꯛꯅꯕ ꯀꯦꯁ
ꯑꯗꯨꯒꯤ kNteMPT ꯄ꯭ꯔꯣꯁꯤꯗꯤꯡ ꯂꯧꯈꯠꯂꯛꯇꯨꯅ ꯑꯀꯛꯅꯕ ꯃꯇꯝ
ꯄꯤꯗꯨꯅ ꯊꯕꯛꯇ ꯑꯣꯟꯊꯣꯛꯅꯕꯒꯤ ꯍꯥꯏꯔꯛꯂꯕ ꯐꯥꯎꯕꯗ ꯏꯟꯗꯕꯗꯒꯤ
ꯍꯛꯊꯦꯡꯅꯔꯤꯕ ꯑꯦꯒꯖꯤꯀ꯭ꯌꯨꯇꯤꯚꯁꯤꯡ ꯀꯣꯔꯠꯇ ꯀꯧꯈꯠꯇꯨꯅ
ꯃꯆꯤꯟ ꯍꯪꯅꯔꯛꯄ ꯐꯥꯎꯕ ꯌꯥꯎꯏ꯫ ꯍꯥꯏꯔꯤꯕ ꯊꯧꯗꯧꯁꯤ ꯑꯃꯨꯛ
ꯑꯅꯤꯔꯛ ꯈꯛꯀꯤ ꯑꯣꯏꯕ ꯋꯥꯐꯝ ꯅꯠꯇꯦ, ꯌꯥꯝꯅ ꯌꯥꯝꯁꯤꯜꯂꯛꯂꯦ꯫

ꯊꯧꯑꯣꯡꯁꯤꯗꯤ ꯂꯩꯉꯥꯛꯂꯣꯟ ꯑꯁꯤꯕꯨ ꯃꯁꯛ ꯊꯤꯍꯟꯅꯕ ꯍꯣꯠꯅꯕꯗ
ꯅꯠꯇꯅ ꯗꯦꯃꯣꯀ꯭ꯔꯦꯁꯤꯒꯤ ꯁ꯭ꯋꯔ ꯁꯠꯇꯣꯛꯄꯒꯤ ꯊꯧꯗꯧꯅꯤ꯫ ꯃꯇꯨꯡꯗ
ꯊꯣꯔꯛꯍꯟꯗꯅꯕ ꯃꯔꯤ ꯂꯩꯅꯕꯁꯤꯡꯅ ꯑꯍꯛꯕ ꯊꯕꯛꯁꯤꯡ ꯄꯥꯏꯈꯠꯂꯨ꯫

ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎ ꯂꯤꯇꯔꯦꯔꯤ ꯀ꯭ꯋꯤꯖ-52
1) ‘‘ꯃꯩꯗꯤꯡꯉꯨ ꯆꯤꯡꯊꯪꯈꯣꯝꯕꯥ ꯔꯥꯖꯔꯁꯤ ꯚꯥꯒ꯭ꯌꯆꯟꯗ꯭ꯔ” ꯍꯥꯏꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤ
ꯀꯅꯥꯅ ꯈꯣꯝꯖꯤꯟꯕꯅꯣ?

2) ‘‘ꯑꯃꯪꯕ ꯅꯣꯡꯂꯛꯀꯤ ꯅꯣꯡꯊꯥꯡ” ꯍꯥꯏꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤꯒꯤ ꯑꯏꯕ ꯀꯅꯥꯅꯣ
ꯑꯃꯁꯨꯡ ꯀꯔꯝꯕ ꯃꯈꯜꯒꯤ ꯂꯥꯏꯔꯤꯛꯅꯣ?
3) ‘‘ꯅꯤꯔꯃꯂꯥ” ꯍꯥꯏꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤ ꯑꯣꯔꯤꯖꯤꯅꯦꯜ ꯀꯅꯥꯅ ꯏꯕꯗꯒꯤ ꯃꯅꯤꯄꯨꯔꯤꯗ
ꯀꯅꯥꯅ ꯍꯟꯗꯣꯛꯄꯅꯣ?

4) ‘‘ꯕꯔꯥꯛ ꯇꯨꯔꯦꯜ ꯇꯣꯔꯕꯥꯟꯗ” ꯍꯥꯏꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤ ꯃꯅꯤꯄꯨꯔ ꯃꯄꯥꯟ ꯂꯝꯒꯤ
ꯑꯏꯕ ꯑꯃꯒꯤꯅꯤ꯫ ꯑꯏꯕ ꯑꯁꯤ ꯀꯅꯥꯅꯣ ꯑꯃꯁꯨꯡ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤ ꯀꯔꯝꯕ
ꯃꯈꯜꯒꯤ ꯂꯥꯏꯔꯤꯛꯅꯣ?

5) ‘‘ꯕꯤꯔ ꯇꯤꯀꯦꯟꯗ꯭ꯔꯖꯤꯠ ꯁꯤꯡꯍ” (1973) ꯀꯧꯕ ꯂꯥꯏꯔꯤꯛ ꯑꯁꯤꯒꯤ ꯑꯏꯕ
ꯀꯅꯥꯅꯣ?

ꯃꯊꯛꯇ ꯄꯤꯔꯤꯕ ꯋꯥꯍꯪꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯄꯥꯎꯈꯨꯝ ꯑꯣꯛꯇꯣꯕꯔ 30, ꯅꯣꯡꯃꯥꯏꯖꯤꯡ
ꯅꯨꯃꯤꯠꯀꯤ ꯑꯌꯨꯡ ꯄꯨꯡ 11 ꯐꯥꯎꯕꯒꯤ ꯃꯅꯨꯡꯗ ꯄꯥꯎꯆꯦ ꯑꯁꯤꯒꯤ ꯑꯣꯐꯤꯁꯇ ꯅꯠꯇ꯭ꯔꯒ
I-meL hueiyenliteraryquiz@gmail.com sid meL AoIn
ꯊꯥꯕꯤꯔꯛꯄ ꯌꯥꯒꯅꯤ꯫ ꯄꯥꯎꯈꯨꯝ ꯄꯤꯕꯤꯔꯛꯄ/ꯊꯥꯕꯤꯔꯛꯄ ꯃꯇꯝꯗ ꯃꯤꯡ, ꯂꯩꯐꯝ,
ꯃꯍꯩꯒꯤ ꯊꯥꯛ ꯑꯃꯁꯨꯡ ꯀꯟꯇꯦꯛꯠ ꯅꯝꯕꯔ ꯃꯌꯦꯛ ꯁꯦꯡꯅ ꯏꯕꯤꯔꯛꯎ꯫
ꯋꯥꯍꯪ ꯈꯨꯗꯤꯡꯃꯛꯀꯤ ꯄꯥꯎꯈꯨꯝ ꯆꯨꯝꯅ ꯅꯠꯇ꯭ꯔꯒ ꯃꯁꯤꯡ ꯌꯥꯝꯅ ꯆꯨꯝꯅ ꯄꯤꯕꯤꯔꯛꯄ
ꯃꯤꯑꯣꯏꯁꯤꯡ ꯑꯗꯨꯗꯒꯤ ꯗ꯭ꯔꯣ ꯑꯣꯠꯆꯔꯒ ꯂꯥꯏꯕꯛ ꯐꯕ ꯃꯤꯁꯛ ꯑꯃ ꯈꯟꯖꯒꯅꯤ꯫
ꯂꯣꯏꯅꯅ ꯈꯜꯂꯕ ꯃꯤꯁꯛ ꯑꯗꯨꯗ ꯃꯅꯥ ꯄꯤꯖꯒꯅꯤ꯫

ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤ ꯅꯣꯕꯦꯜ ꯄ꯭ꯔꯥꯏꯖ 2022
ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤ ꯑꯃꯁꯨꯡ ꯕꯥꯏꯑꯣꯑꯣꯔꯊꯣꯒꯅꯜ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯕꯨ ꯁꯦꯝꯒꯠꯂꯛꯄꯒꯤꯗꯃꯛ
ꯁꯥꯏꯟꯁꯀꯤ ꯈꯣꯡꯆꯠ
ꯀꯨꯟꯖꯣ ꯅꯥꯎꯔꯦꯝ
ꯆꯠꯂꯤꯕ ꯆꯍꯤꯁꯤꯒꯤ ꯅꯣꯕꯦꯜ ꯄ꯭ꯔꯥꯏꯖ ꯑꯁꯤ Carolyn
R. Bertozzi, Morten Meldal AmsuZ K. Barry
ꯈꯍꯥꯔꯄꯂꯦꯁꯁ ꯇ ꯃꯈꯣꯏꯅ ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤ ꯑꯃꯁꯨꯡ
ꯕꯥꯏꯑꯣꯑꯣꯔꯊꯣꯒꯣꯅꯜ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯕꯨ ꯃꯤꯑꯣꯏꯕꯒꯤ
ꯌꯥꯏꯐꯅꯕꯒꯤꯗꯃꯛ ꯃꯄꯨꯡ ꯐꯥꯅ ꯁꯦꯝꯒꯠꯂꯛꯄ
ꯉꯝꯈꯤꯕꯒꯤꯗꯃꯛ ꯄꯤꯔꯒꯅꯤ ꯍꯥꯏꯅ ꯍꯧꯈꯤꯕ
ꯑꯣꯛꯇꯣꯕꯔ 5 ꯗ ꯔꯣꯌꯜ ꯁ꯭ꯋꯤꯗꯤꯁ ꯑꯦꯀꯥꯗꯦꯃꯤ
ꯑꯣꯐ ꯁꯥꯏꯟꯁꯦꯁꯅ ꯂꯥꯎꯊꯣꯛꯈ꯭ꯔꯦ꯫ ꯃꯈꯣꯏꯅ
ꯄꯨꯊꯣꯔꯛꯂꯤꯕ ꯇꯦꯛꯅꯤꯛꯁꯤꯡ ꯑꯁꯤꯅ
ꯃꯁꯥ-ꯃꯎ ꯐꯔꯤꯕ ꯁꯦꯜꯁꯤꯡꯗ ꯑꯀꯥꯏꯕ
ꯄꯤꯗꯅ ꯀꯦꯟꯁꯔ ꯁꯦꯜꯁꯤꯡꯕꯨ ꯍꯥꯠꯄ ꯉꯝꯕ
ꯗꯦꯂꯤꯚꯔꯤꯡ ꯇ꯭ꯔꯤꯠꯃꯦꯟꯠꯁꯤꯡ, ꯂꯣꯏꯅ-ꯂꯣꯏꯅꯅ
ꯃꯦꯇꯔꯤꯑꯦꯜꯁꯤꯡꯕꯨ ꯁꯦꯝꯒꯠ-ꯁꯥꯒꯠꯅꯕꯒꯤꯗꯃꯛ
ꯄꯣꯂꯤꯃꯔꯁꯤꯡꯕꯨ ꯃꯔꯥꯡ ꯀꯥꯏꯅ ꯑꯃꯁꯨꯡ ꯌꯥꯝꯅ
ꯊꯨꯅ ꯑꯀꯣꯏꯕꯒꯤ ꯐꯤꯚꯝꯗ ꯍꯦꯟꯅ ꯁꯥꯐꯅ ꯄꯨꯊꯣꯛꯄ
ꯌꯥꯎꯅ ꯂꯝ ꯀꯌꯥꯗ ꯁꯤꯖꯤꯟꯅꯕ ꯉꯝꯍꯜꯂꯦ꯫

ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯗ ꯌꯨꯝꯐꯝ ꯑꯣꯏꯕ ꯍꯤꯗꯥꯛ
ꯑꯃ ꯍꯧꯖꯤꯛ ꯍꯧꯖꯤꯛꯃꯛ ‘ꯐꯦꯖꯦ ꯇꯨ ꯀ꯭ꯂꯤꯅꯤꯀꯦꯜ
ꯇ꯭ꯔꯥꯑꯦꯜ’ ꯆꯠꯊꯔꯤ꯫ ꯕꯦꯇꯣꯔꯁꯤꯅ ꯍꯤꯗꯥꯛ ꯑꯁꯤꯕꯨ
ꯁꯥꯔꯤꯕ ꯀꯝꯄꯦꯅꯤꯗꯨꯒꯤ ꯁꯥꯏꯟꯇꯤꯐꯤꯛ ꯑꯦꯗꯚꯥꯏꯖꯔ ꯑꯣꯏꯔꯤ꯫
ꯖꯤꯕ ꯑꯃꯅ ꯍꯤꯡꯅꯕ ꯑꯃꯁꯨꯡ ꯃꯊꯧ ꯀꯌꯥ ꯄꯥꯡꯊꯣꯛꯄ ꯉꯝꯅꯕꯒꯤꯗꯃꯛ ꯖꯤꯕꯗꯨꯒꯤ ꯁꯦꯜꯁꯤꯡꯗ ꯃꯈꯜ ꯃꯈꯥ ꯀꯌꯥꯒꯤ ꯀꯦꯃꯤꯀꯦꯜ ꯔꯤꯑꯦꯛꯁꯟꯁꯤꯡ ꯊꯣꯛꯏ꯫ ꯔꯤꯑꯦꯛꯁꯟꯁꯤꯡ ꯑꯁꯤꯗ ꯁꯔꯨꯛ ꯌꯥꯔꯤꯕ ꯕꯥꯏꯑꯣꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯒꯤ ꯀꯥꯔꯕꯟ ꯑꯦꯇꯝꯁꯤꯡꯅ ꯑꯃꯒ ꯑꯃꯒ ꯁꯝꯖꯤꯟꯅꯔꯒ ꯁꯦꯝꯕ ꯀꯥꯔꯕꯟ ꯆ꯭ꯌꯦꯟꯁꯤꯡꯒꯤ ꯐ꯭ꯔꯦꯝꯋꯔꯛ ꯑꯃ ꯂꯩ꯫ ꯖꯤꯕ ꯑꯃꯒꯤ ꯃꯍꯧꯁꯥꯒꯤ ꯑꯣꯏꯕ ꯊꯧꯑꯣꯡꯅ ꯑꯁꯤꯒꯨꯝꯕ ꯀꯥꯔꯕꯟꯒꯤ ꯆ꯭ꯌꯦꯟꯁꯤꯡꯁꯤ ꯁꯦꯝꯖꯤꯟꯕꯒꯤ ꯄꯥꯝꯕꯩꯁꯤꯡ ꯂꯩꯖꯩ꯫ ꯑꯗꯨꯕꯨ ꯀꯦꯃꯤꯁꯠ ꯑꯃꯅ ꯑꯁꯤꯒꯨꯝꯕ ꯆ꯭ꯌꯦꯟꯁꯤꯡꯁꯤ ꯈꯨꯠꯁꯦꯝꯒꯤ ꯄꯥꯝꯕꯩꯅ ꯁꯦꯝꯕ ꯍꯥꯏꯕꯁꯤ ꯃꯪꯗ ꯃꯪꯒ꯭ꯔꯥ ꯇꯥꯟꯕꯒꯤ ꯐꯤꯚꯝꯗ ꯂꯩꯔꯝꯃꯤ꯫ ꯃꯔꯝꯗꯤ ꯇꯣꯉꯥꯟ ꯇꯣꯉꯥꯟꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯒꯤ ꯀꯥꯔꯕꯟ ꯑꯦꯇꯝꯁꯤꯡꯗ ꯃꯈꯣꯏ ꯑꯃꯒ ꯑꯃꯒ ꯕꯣꯟ ꯁꯦꯝꯅꯕꯒꯤ ‘ꯀꯦꯃꯤꯀꯦꯜ ꯗ꯭ꯔꯥꯏꯚ’ ꯑꯁꯤ ꯌꯥꯎꯔꯝꯗꯦ, ꯑꯗꯨꯅ ꯃꯈꯣꯏꯕꯨ ꯈꯨꯠꯁꯦꯝꯒꯤ ꯄꯥꯝꯕꯩꯅ ꯑꯦꯛꯇꯤꯚꯦꯁꯟ ꯇꯧꯍꯟꯕ ꯇꯥꯔꯝꯃꯤ꯫ ꯑꯁꯨꯝꯅ ꯑꯦꯛꯇꯤꯚꯦꯁꯟ ꯇꯧꯕ ꯃꯇꯝꯗ ꯄꯥꯝꯗꯕ ꯁꯥꯏꯗ ꯔꯤꯑꯦꯛꯁꯟ ꯀꯌꯥꯃꯨꯛ ꯊꯣꯔꯛꯏ ꯑꯃꯁꯨꯡ ꯃꯃꯜ ꯌꯥꯝꯂꯕ ꯃꯦꯇꯔꯤꯑꯦꯜ ꯑꯗꯨꯕꯨ ꯑꯔꯦꯝꯕꯗ ꯃꯥꯡꯍꯜꯂꯤ꯫

ꯑꯁꯨꯝꯅ ꯆꯀ꯭ꯔꯤ ꯐꯠꯇ꯭ꯔꯕ ꯀꯥꯔꯕꯟ ꯑꯦꯇꯝꯁꯤꯡꯕꯨ ꯔꯤꯑꯦꯛꯁꯟ ꯊꯣꯛꯍꯟꯗꯨꯅ ꯄꯥꯝꯂꯤꯕ ꯆ꯭ꯌꯦꯟꯁꯤꯡꯗꯨ ꯐꯪꯅꯕꯒꯤꯗꯃꯛ ꯑꯉꯝ ꯇꯥꯟꯅꯔꯨꯕꯒꯤ ꯃꯍꯨꯠꯇ ꯕꯦꯔꯤ ꯁꯥꯔꯞꯂꯦꯁꯅ ꯍꯥꯟꯅꯗꯒꯤ ꯍꯧꯅ ꯃꯄꯨꯡ ꯐꯥꯔꯕ ꯀꯥꯔꯕꯟ ꯐ꯭ꯔꯦꯝ ꯂꯩꯖꯔꯕ ꯍꯦꯟꯅ ꯄꯤꯛꯄ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯗ ꯃꯥꯏ ꯑꯣꯟꯁꯤꯟꯕ ꯍꯧꯔꯛꯈꯤ꯫ ꯑꯆꯝꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡ ꯑꯁꯤꯅ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯅꯠꯇ꯭ꯔꯒ ꯑꯣꯛꯁꯤꯖꯦꯟ ꯑꯦꯇꯝꯁꯤꯡꯒꯤ ‘ꯒ꯭ꯔꯤꯗꯖ’ ꯁꯤꯡ ꯁꯤꯖꯤꯟꯅꯗꯨꯅ ꯆ꯭ꯌꯦꯟꯁꯤꯡꯕꯨ ꯁꯦꯝꯍꯟꯕ ꯉꯝꯂꯝꯃꯤ ꯑꯃꯁꯨꯡ ꯃꯈꯣꯏꯁꯤ ꯏꯔꯥꯏ ꯂꯥꯏꯅ ꯂꯥꯛꯁꯤꯟꯕꯁꯨ ꯉꯝꯂꯝꯃꯤ꯫ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯅ ꯑꯃꯒ ꯑꯃꯒ ꯕꯣꯟꯗ ꯁꯦꯝꯅꯕꯒꯤ ꯑꯀꯟꯕ ‘ꯏꯟꯇ꯭ꯔꯤꯟꯁꯤꯛ ꯗ꯭ꯔꯥꯏꯚ’ ꯑꯃ ꯌꯥꯎꯖꯔꯕ ꯑꯆꯝꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯁꯤ ꯁꯤꯖꯤꯟꯅꯔꯕꯗꯤ ꯁꯥꯏꯗ ꯔꯤꯑꯦꯛꯁꯟ ꯀꯌꯥꯃꯨꯛ ꯊꯣꯛꯍꯟꯗꯕ ꯉꯝꯃꯤ ꯑꯃꯁꯨꯡ ꯃꯦꯇꯔꯤꯑꯦꯜꯗꯨ ꯑꯔꯦꯝꯕꯗ ꯃꯥꯡꯈꯤꯕꯒꯤ ꯆꯥꯡꯁꯨ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯍꯟꯊꯍꯟꯕ ꯉꯝꯂꯝꯃꯤ꯫
ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯕꯨ ꯁꯨꯡꯅꯕꯒꯤ ꯑꯁꯤꯒꯨꯝꯕ ꯁꯛꯇꯤ ꯂꯩꯔꯕ ꯄꯥꯝꯕꯩ ꯑꯁꯤ ꯕꯦꯔꯤ ꯁꯥꯔꯞꯂꯦꯁꯟ ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤ (ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯕꯨ ‘ꯀ꯭ꯂꯤꯛ’ ꯇꯧꯔꯒ ꯑꯃꯒ ꯑꯃꯒ ꯁꯦꯝꯖꯤꯟꯅꯍꯟꯅꯕꯒꯤ ꯄꯥꯝꯕꯩ) ꯍꯥꯏꯅ ꯀꯧꯔꯝꯃꯤ꯫ ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯅ ꯃꯍꯧꯁꯥꯒꯤ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯗꯨꯒꯤ ꯆꯞ ꯆꯥꯕ ꯀꯣꯄꯤꯁꯤꯡ ꯐꯪꯍꯟꯕ ꯉꯝꯗ꯭ꯔꯕ ꯐꯥꯎꯕꯗ ꯆꯞ ꯃꯥꯟꯅꯕ ꯃꯊꯧ ꯇꯧꯍꯟꯕ ꯉꯝꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡ ꯄꯨꯊꯣꯛꯄꯗꯤ ꯉꯝꯍꯟꯒꯅꯤ ꯍꯥꯏꯅ ꯀ꯭ꯂꯤꯛꯅ ꯊꯥꯖꯕ ꯊꯝꯂꯝꯃꯤ꯫ ꯑꯆꯝꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡ ꯑꯁꯤꯕꯨ ꯄꯨꯟꯁꯤꯟꯅꯍꯟꯗꯨꯅ ꯃꯁꯤꯡ ꯊꯤꯉꯝꯗ꯭ꯔꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡ ꯁꯨꯡꯕ ꯌꯥꯍꯜꯂꯤ ꯑꯗꯨꯅ ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯅ ꯃꯍꯧꯁꯥꯗ ꯐꯪꯂꯤꯕ ꯍꯤꯗꯥꯛ ꯑꯣꯏꯅ ꯁꯤꯖꯤꯟꯅꯕꯗ ꯀꯥꯟꯅꯔꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯕꯨ ꯆꯥꯡ ꯌꯥꯝꯅ ꯐꯪꯍꯟꯕ ꯉꯝꯃꯤ ꯍꯥꯏꯕꯁꯤ ꯈꯪꯂꯛꯂꯝꯃꯤ꯫ ꯃꯇꯥꯡꯁꯤꯗ ꯄꯜꯂꯝꯕ ꯌꯥꯔꯤꯕꯗꯤ, ꯀꯦꯟꯁꯔꯒꯨꯝꯕ ꯁꯥꯊꯤꯔꯕ ꯂꯥꯏꯅꯥ ꯀꯌꯥꯕꯨ ꯐꯍꯟꯕ ꯉꯝꯕ ꯀꯦꯃꯤꯀꯦꯜ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ ꯀꯌꯥꯃꯨꯛ ꯃꯍꯧꯁꯥꯗ ꯍꯤꯡꯂꯤꯕ ꯖꯤꯕꯁꯤꯡꯗꯒꯤ ꯐꯪꯏ꯫ ꯑꯗꯨꯕꯨ ꯑꯗꯨꯒꯨꯝꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯁꯤꯡꯗꯨ ꯈꯨꯠꯁꯦꯝꯒꯤ ꯄꯥꯝꯕꯩꯅ ꯆꯥꯡ ꯌꯥꯝꯅ ꯄꯨꯊꯣꯛꯄ ꯍꯥꯏꯕꯁꯤ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯁꯤꯡꯗ ꯑꯆꯧꯕ ꯈꯨꯔꯧ ꯆꯦꯟꯕ ꯊꯕꯛ ꯑꯃ ꯑꯣꯏꯔꯝꯃꯤ꯫ ꯃꯔꯝꯗꯤ ꯃꯈꯣꯏꯕꯨ ꯁꯨꯡꯕꯗ ꯁꯦꯜ ꯌꯥꯝꯅ ꯆꯪꯏ ꯑꯃꯁꯨꯡ ꯄꯥꯝꯗꯕ ꯀꯦꯃꯤꯀꯦꯜ ꯀꯌꯥꯃꯨꯛ ꯊꯥꯗꯣꯔꯛꯏ꯫ ꯀꯨꯝꯖꯥ 2001 ꯗꯒꯤ ꯍꯧꯔꯒ ꯄꯨꯊꯣꯔꯛꯈꯤꯕ ꯊꯤꯖꯤꯟ ꯆꯦꯔꯣꯜꯁꯤꯡꯗ ꯁꯥꯔꯞꯂꯦꯁꯅ ꯀꯦꯃꯤꯀꯦꯜ ꯔꯤꯑꯦꯛꯁꯟ ꯑꯃꯕꯨ ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤ ꯀꯧꯕ ꯌꯥꯔꯒ ꯇꯣꯉꯥꯟ-ꯇꯣꯉꯥꯟꯕ ꯀ꯭ꯔꯥꯏꯇꯦꯔꯤꯌꯥ ꯀꯌꯥꯃꯨꯛ ꯐꯣꯡꯗꯣꯔꯛꯈꯤ꯫ ꯑꯇꯣꯞꯄ ꯅꯥꯀꯜ ꯑꯃꯔꯣꯝꯗꯅ, ꯃꯣꯔꯇꯦꯜ ꯃꯦꯜꯗꯜꯅ ꯍꯤꯗꯥꯛ ꯑꯣꯏꯅ ꯀꯥꯟꯅꯔꯒꯗꯕ ꯐꯥꯔꯃꯥꯁ꯭ꯌꯨꯇꯤꯀꯦꯜ ꯁꯕꯁ꯭ꯇꯦꯟꯁꯁꯤꯡ ꯁꯨꯡꯅꯕꯒꯤ ꯄꯥꯝꯕꯩꯁꯤꯡ ꯁꯦꯝꯒꯠꯄ ꯍꯧꯔꯛꯂꯝꯃꯤ꯫ ꯅꯣꯡꯃꯗꯤ ꯃꯦꯜꯗꯜ ꯑꯃꯁꯨꯡ ꯃꯍꯥꯛꯀꯤ ꯈꯣꯡꯕꯨꯅ alkyne ꯑꯃꯁꯨꯡ acyl ꯍꯥꯂꯤꯗꯦ ꯄꯨ ꯔꯤꯑꯦꯛꯁꯟ ꯊꯣꯛꯍꯟꯅꯕꯒꯤ ꯊꯧꯔꯥꯡ ꯇꯣꯔꯝꯃꯤ꯫ ꯀꯣꯔꯤꯒꯤ ꯑꯥꯏꯑꯣꯟ ꯈꯔ ꯑꯃꯁꯨꯡ ꯄꯂꯥꯗꯤꯌꯝ ꯈꯔꯒ ꯀꯦꯇꯂꯤꯁꯠ ꯑꯣꯏꯅ ꯍꯥꯞꯂꯤꯕꯃꯈꯩ ꯔꯤꯑꯦꯛꯁꯟꯗꯨ ꯅꯤꯡꯊꯤꯖꯅ ꯊꯣꯛꯂꯝꯃꯤ꯫ ꯑꯗꯨꯕꯨ ꯃꯦꯜꯗꯜꯅ ꯔꯤꯑꯦꯛꯁꯟ ꯑꯗꯨꯕꯨ ꯀꯨꯞꯅ ꯅꯩꯅꯔꯨꯕ ꯃꯇꯝꯗꯗꯤ, ‘ꯁꯅꯥ ꯈꯨꯗꯣꯞ ꯌꯥꯏꯑꯣꯏꯕꯤ’ ꯑꯃꯅ ꯊꯣꯛꯍꯟꯈꯤꯕꯒꯨꯝꯅ ꯃꯪꯗ ꯐꯥꯎꯕ ꯃꯪꯈꯤꯗꯕ ꯊꯧꯗꯧ ꯑꯃ ꯊꯦꯡꯅꯔꯛꯂꯝꯃꯤ ꯃꯗꯨꯗꯤ ꯑꯜꯀꯥꯏꯟꯅ ꯑꯩꯁꯥꯏꯜ ꯍꯩꯂꯥꯏꯗ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯒꯤ azide ꯍꯥꯏꯅ ꯈꯪꯅꯕ ꯀꯦꯃꯤꯀꯦꯜ ꯇꯔꯕꯨꯞ ꯑꯃꯒ ꯔꯤꯑꯦꯛꯠ ꯇꯧꯅꯔꯝꯃꯤ, ꯑꯗꯨꯒ triazole ꯀꯧꯕ ꯔꯤꯡ-ꯃꯑꯣꯡꯒꯤ ꯁ꯭ꯇ꯭ꯔꯛꯆꯔ ꯑꯃ ꯁꯦꯝꯂꯛꯂꯝꯃꯤ꯫ ꯇ꯭ꯔꯥꯏꯑꯜꯖꯣꯜꯁꯤꯡꯁꯤ ꯌꯥꯝꯅ ꯀꯥꯟꯅꯕ ꯀꯦꯃꯤꯀꯦꯜ ꯁ꯭ꯇ꯭ꯔꯛꯆꯔꯁꯤꯡꯅꯤ ꯃꯔꯝꯗꯤ ꯃꯈꯣꯏꯁꯤ
ꯍꯤꯗꯥꯛ-ꯂꯥꯡꯊꯛ ꯃꯆꯨ ꯁꯪꯅꯕ ꯄꯣꯠ ꯑꯃꯁꯨꯡ ꯑꯦꯒ꯭ꯔꯤꯀꯜꯆꯔꯦꯜ
ꯀꯦꯃꯤꯀꯦꯜꯁꯤꯡꯗ ꯌꯥꯎꯏ꯫ ꯑꯜꯀꯥꯏꯟ ꯑꯃꯁꯨꯡ ꯑꯩꯖꯥꯏꯗꯁꯤꯡꯗꯒꯤ
ꯇ꯭ꯔꯥꯏꯑꯖꯣꯜꯁꯤꯡ ꯁꯨꯡꯅꯕꯒꯤ ꯄꯥꯝꯕꯩꯁꯤꯡ ꯍꯥꯟꯅꯅ ꯄꯨꯊꯣꯛꯅꯈ꯭ꯔꯦ
ꯑꯗꯨꯕꯨ ꯃꯈꯣꯏꯗꯒꯤ ꯄꯥꯝꯗꯕ ꯕꯥꯏ-ꯄ꯭ꯔꯗꯛꯠ ꯀꯌꯥꯃꯨꯛꯇꯤ ꯊꯥꯗꯣꯔꯛꯏ꯫
ꯃꯦꯜꯗꯜꯅ ꯊꯦꯡꯅꯔꯛꯂꯤꯕ ꯔꯤꯑꯦꯛꯁꯟ ꯑꯁꯤꯅ
ꯔꯤꯑꯦꯛꯁꯟ ꯊꯣꯛꯍꯟꯕꯗ ꯁꯤꯖꯤꯟꯅꯈꯤꯕ
ꯄꯥꯇ꯭ꯔꯗꯨꯗ ꯑꯍꯣꯡꯕ ꯑꯃꯠꯇ ꯊꯣꯛꯍꯜꯂꯝꯗꯦ꯫
ꯃꯍꯥꯛꯀꯤ ꯊꯤꯖꯤꯟ ꯆꯦꯔꯣꯜꯗꯨ ꯀꯨꯝꯖꯥ 2001 ꯒꯤ
ꯖꯨꯟ ꯊꯥꯗ ꯄꯥꯡꯊꯣꯛꯈꯤꯕ ꯁꯥꯟ ꯗꯤꯌꯥꯒꯣꯒꯤ
ꯁꯤꯝꯄꯣꯖꯤꯌꯝ ꯑꯃꯗ ꯐꯣꯡꯗꯣꯛꯈꯤ꯫ ꯃꯁꯤꯒꯤ
ꯃꯈꯥ ꯇꯥꯔꯛꯄꯗꯅ ꯀꯨꯝꯖꯥ 2002 ꯗ ꯁꯥꯏꯇꯤꯐꯤꯛ
ꯖꯔꯅꯦꯜ ꯑꯃꯗ ꯔꯤꯑꯦꯛꯁꯟ ꯑꯁꯤ ꯇꯣꯉꯥꯟ
ꯇꯣꯉꯥꯟꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ ꯀꯌꯥꯕꯨ ꯕꯣꯟꯗ ꯁꯦꯝꯍꯟꯕꯗ
ꯁꯤꯖꯤꯟꯅꯕ ꯌꯥꯏ ꯍꯥꯏꯅ ꯐꯣꯡꯗꯣꯔꯛꯈꯤ꯫ ꯆꯍꯤ
ꯑꯁꯤꯃꯛꯇꯗ ꯃꯦꯜꯗꯜꯒꯤ ꯃꯇꯧ ꯇꯝꯂꯨꯕ ꯇꯧꯗꯅ
ꯅꯠꯇ꯭ꯔꯒ ꯃꯇꯦꯡ ꯌꯥꯎꯗꯅ ꯕꯦꯔꯤ ꯁꯥꯔꯞꯂꯦꯁꯅ
ꯀꯣꯔꯤꯕꯨ ꯀꯦꯠꯂꯤꯁꯠ ꯑꯣꯏꯅ ꯁꯤꯖꯤꯟꯅꯔꯒ
ꯑꯩꯖꯥꯏꯗ ꯑꯃꯁꯨꯡ ꯑꯜꯀꯥꯏꯟꯁꯤꯡꯒꯤ ꯃꯔꯛꯇ
ꯊꯣꯛꯄ ꯔꯤꯑꯦꯛꯁꯟꯁꯤꯡꯒꯤ ꯃꯔꯝꯗ
ꯆꯦꯔꯣꯜ ꯑꯃ ꯐꯣꯡꯗꯣꯔꯛꯈꯤ꯫ ꯔꯤꯑꯦꯛꯁꯟ ꯑꯗꯨ ꯏꯁꯤꯡꯗ ꯊꯣꯛꯄ ꯉꯝꯃꯤ ꯍꯥꯏꯕꯁꯨ ꯃꯍꯥꯛꯅ ꯎꯠꯂꯛꯈꯤ꯫ ꯃꯁꯤꯕꯨ ꯃꯍꯥꯛꯅ 'ꯑꯥꯏꯗꯤꯑꯦꯜ' ꯀ꯭ꯂꯤꯛ ꯔꯤꯑꯦꯛꯁꯟ ꯍꯥꯏꯅ ꯀꯧꯔꯝꯃꯤ꯫ ꯀ꯭ꯂꯤꯛ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯒꯤ ꯃꯇꯦꯡꯅ ꯀꯥꯟꯅꯔꯕ ꯀꯦꯃꯤꯀꯦꯜ ꯀꯌꯥꯃꯨꯛ ꯁꯦꯜ ꯆꯪꯍꯟꯗꯅ ꯑꯃꯁꯨꯡ ꯄꯥꯝꯗꯕ ꯀꯦꯃꯤꯀꯦꯜꯁꯤꯡ ꯊꯥꯗꯣꯛꯍꯟꯗꯅ ꯁꯨꯡꯕ ꯌꯥꯍꯟꯕꯒꯤꯗꯃꯛ ꯃꯣꯔꯇꯦꯟ ꯃꯦꯜꯗꯦꯜ ꯑꯃꯁꯨꯡ ꯕꯦꯔꯤ ꯁꯥꯔꯞꯂꯦꯁꯅ ꯀꯦꯃꯤꯇ꯭ꯔꯒꯤ ꯅꯣꯕꯦꯜ ꯄ꯭ꯔꯥꯏꯖ 2022 ꯐꯪꯒꯗꯧꯔꯤꯕꯅꯤ꯫ ꯃꯇꯥꯡꯁꯤꯗ ꯄꯜꯂꯝꯕ ꯌꯥꯔꯤꯕꯗꯤ, ꯕꯦꯔꯤ ꯁꯥꯔꯞꯂꯦꯁꯅ ꯀꯨꯝꯖꯥ 2001 ꯗ ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯒꯤ ꯅꯣꯕꯦꯜ ꯄ꯭ꯔꯥꯏꯖ ꯑꯃꯁꯨꯡ ꯍꯥꯟꯅꯅ ꯐꯪꯈ꯭ꯔꯦ (ꯀꯥꯏꯔꯜ ꯀꯦꯇꯂꯤꯁꯠꯅ ꯑꯣꯛꯁꯤꯗꯦꯁꯟ ꯔꯤꯑꯦꯛꯁꯟ ꯊꯣꯛꯍꯟꯕꯒ ꯃꯔꯤ ꯂꯩꯅꯅ)꯫
ꯆꯤꯅꯤꯒꯤ ꯇꯣꯉꯥꯟ ꯇꯣꯉꯥꯟꯕ ꯃꯈꯜꯁꯤꯡꯗꯒꯤ ꯁꯦꯝꯒꯠꯂꯛꯄ, ꯀꯔꯤꯒꯨꯝꯕ ꯃꯇꯝꯗꯅ ꯄ꯭ꯔꯣꯇꯤꯟ ꯑꯃꯁꯨꯡ ꯁꯦꯜꯁꯤꯡꯒꯤ ꯂꯩꯃꯥꯏꯗ ꯐꯪꯕ; ꯚꯥꯏꯔꯁꯤꯡꯅ ꯁꯦꯂꯁꯤꯡꯕꯨ ꯏꯟꯐꯦꯛꯠ ꯇꯧꯔꯛꯄ ꯃꯇꯝ ꯑꯃꯁꯨꯡ ꯏꯝꯃ꯭ꯌꯨꯟ ꯁꯤꯁꯇꯝꯅ ꯑꯦꯛꯇꯤꯚꯦꯠ ꯇꯧꯔꯛꯄꯅꯆꯤꯡꯕ ꯕꯥꯏꯑꯣꯂꯣꯖꯤꯀꯦꯜ ꯄ꯭ꯔꯣꯁꯦꯁꯁꯤꯡꯗ ꯃꯔꯨ ꯑꯣꯏꯔꯕ ꯊꯧꯗꯥꯡ ꯂꯧꯔꯤꯕ ꯀꯝꯄ꯭ꯂꯦꯛꯁ ꯀꯥꯔꯕꯣꯍꯥꯏꯗ꯭ꯔꯦꯠ ꯀꯥꯡꯂꯨꯞ ꯑꯃ ꯂꯩ, ꯃꯈꯣꯏꯗꯨꯕꯨ ꯒꯂꯌꯆꯥꯅꯁ ꯍꯥꯏꯅ ꯈꯪꯅꯩ꯫ ꯀꯨꯟꯁꯨꯕ ꯆꯍꯤ ꯆꯥꯅ ꯂꯣꯏꯁꯤꯜꯂꯛꯄꯒꯤ ꯇꯥꯡꯀꯛ Carolyn Bertozzi ꯂꯤꯝꯐ ꯅꯣꯗꯁꯤꯡꯗ ꯏꯝꯃ꯭ꯌꯨꯟ ꯁꯦꯜꯁꯤꯡꯕꯨ ꯆꯤꯡꯁꯤꯟꯍꯜꯂꯤꯕ ꯒ꯭ꯂꯥꯏꯀꯦꯟ amgi ꯃꯦꯞꯄꯤꯡ ꯇꯧꯕ ꯍꯧꯔꯛꯂꯝꯃꯤ꯫ ꯑꯗꯨꯕꯨ ꯃꯇꯝꯗꯨꯗ ꯂꯩꯔꯝꯕ ꯈꯨꯠꯁꯨ-ꯈꯨꯠꯂꯥꯏꯁꯤꯡꯗꯨꯅ ꯒ꯭ꯂꯥꯏꯀꯦꯟꯒꯤ ꯆꯞ ꯆꯥꯕ ꯃꯊꯧꯕꯨ ꯈꯪꯍꯟꯕ ꯉꯝꯂꯝꯗꯦ꯫ ꯑꯗꯨꯅ ꯀꯦꯔꯣꯂꯤꯟ ꯕꯦꯔꯇꯣꯁꯤꯅ ꯀꯦꯃꯤꯀꯦꯜ ꯍꯦꯟꯗꯜ ꯑꯃꯗꯤ ꯐ꯭ꯂꯣꯔꯦꯁꯦꯟꯠ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ (ꯑꯀꯣꯏꯕꯗꯒꯤ ꯃꯉꯥꯜꯕꯨ ꯆꯨꯞꯁꯤꯜꯂ ꯑꯃꯨꯛ ꯍꯥꯟꯅ ꯊꯥꯗꯣꯔꯛꯄ ꯉꯝꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ) ꯍꯥꯞꯆꯤꯟꯕ ꯉꯝꯂꯛꯂꯝꯃꯤ꯫ ꯀ꯭ꯂꯣꯔꯦꯁꯦꯟꯠ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ ꯑꯗꯨꯗꯒꯤ ꯊꯥꯗꯣꯔꯛꯂꯤꯕ ꯃꯉꯥꯜ ꯑꯗꯨꯅ ꯁꯦꯜꯒꯤ ꯃꯅꯨꯡꯗ ꯂꯩꯔꯤꯕ ꯒ꯭ꯂꯥꯏꯀꯦꯟꯁꯤꯡꯕꯨ ꯎꯍꯟꯕ ꯉꯝꯂꯝꯃꯤ꯫ ꯑꯗꯨꯕꯨ ꯃꯇꯥꯡꯁꯤꯗ ꯂꯨꯔꯤꯕꯗꯤ ꯀꯦꯃꯤꯀꯦꯜ ꯅꯦꯟꯗꯜꯁꯤꯡꯗꯨꯅ ꯁꯦꯜꯗ ꯌꯥꯎꯔꯤꯕ ꯑꯇꯣꯞꯄ ꯄꯣꯠ ꯑꯃꯠꯇꯒ ꯔꯤꯑꯦꯛꯁꯟ ꯊꯣꯛꯍꯟꯗꯕ ꯇꯥꯔꯝꯃꯤ꯫ ꯃꯍꯥꯛꯅ ꯃꯁꯤꯕꯨ bioorthogonal ꯍꯥꯏꯅ ꯊꯣꯜꯂꯝꯃꯤ, ꯍꯥꯏꯕꯗꯤ ꯍꯦꯟꯗꯜ ꯑꯗꯨꯒ ꯐ꯭ꯂꯣꯔꯦꯁꯦꯟꯠ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜꯒ ꯑꯅꯤꯒꯤ ꯃꯔꯛꯇ ꯊꯣꯛꯂꯤꯕ ꯔꯤꯑꯦꯛꯁꯟꯗꯨ ꯕꯥꯏꯑꯣꯑꯣꯔꯊꯣꯒꯣꯅꯜ ꯑꯣꯏꯕ ꯇꯥꯏ꯫
ꯀꯨꯝꯖꯥ 2000 ꯗ ꯕꯦꯇꯣꯔꯁꯤꯅ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯐꯔꯕ ꯀꯦꯃꯤꯀꯦꯜ ꯍꯦꯟꯗꯜ ‘ꯑꯩꯖꯥꯏꯗ’ ꯐꯪꯕ ꯉꯝꯈꯤ꯫ ꯑꯩꯖꯥꯏꯗꯅ ꯀꯣꯔꯤꯒꯤ ꯑꯥꯏꯑꯣꯟꯁꯤꯡꯕꯨ ꯍꯦꯛ ꯐꯪꯂꯤꯕꯃꯈꯦ ꯑꯜꯀꯥꯏꯟ ꯑꯃꯗ ꯊꯨꯅ ꯀ꯭ꯂꯤꯛ ꯇꯧꯕ ꯉꯝꯃꯤ ꯍꯥꯏꯕꯁꯤ ꯃꯍꯥꯛ ꯈꯪꯂꯛꯂꯝꯃꯤ꯫ ꯑꯗꯨꯕꯨ ꯀꯣꯔꯤꯗꯤ ꯍꯨ ꯆꯦꯟꯕꯅꯤꯅ, ꯀꯣꯔꯤ ꯌꯥꯎꯗꯕ ꯄꯥꯝꯕꯩ ꯑꯗꯨ ꯄꯨꯊꯣꯛꯄ ꯇꯥꯔꯝꯃꯤ꯫ ꯑꯜꯀꯥꯏꯟꯕꯨ ꯔꯤꯡ ꯃꯑꯣꯡꯒꯤ ꯀꯦꯃꯤꯀꯦꯜ ꯁ꯭ꯇ꯭ꯔꯛꯆꯔ ꯑꯃꯗ ꯀꯥꯞꯁꯤꯜꯂꯕꯗꯤ ꯁ꯭ꯇ꯭ꯔꯦꯏꯟ ꯑꯗꯨꯅ ꯑꯦꯅꯔꯖꯤ ꯌꯥꯝꯅ ꯄꯤꯊꯣꯔꯛꯇꯨꯅ ꯔꯤꯑꯦꯛꯁꯟꯁꯨ ꯊꯣꯛꯍꯜꯂꯤ ꯍꯥꯏꯕ ꯈꯪꯂꯛꯂꯝꯃꯤ꯫ ꯑꯁꯨꯝ ꯀꯨꯝꯖꯥ 2004 ꯗ ꯃꯍꯥꯛꯅ strain-ꯄꯔꯣꯃꯣꯇꯦꯗ alkyne-azide cycloaddition ꯀꯧꯕ ꯀꯣꯔꯤ ꯌꯥꯎꯗꯕ ꯀ꯭ꯂꯤꯛ ꯔꯤꯑꯦꯛꯁꯟ ꯑꯁꯤ ꯄꯨꯊꯣꯔꯛꯈꯤ ꯑꯃꯁꯨꯡ ꯃꯁꯤꯕꯨ ꯒ꯭ꯂꯥꯏꯀꯦꯟꯁꯤꯡ ꯇ꯭ꯔꯦꯛ ꯇꯧꯕꯗ ꯁꯤꯖꯤꯟꯅꯕ ꯌꯥꯏ ꯍꯥꯏꯕꯁꯨ ꯎꯠꯂꯛꯈꯤ꯫ ꯕꯦꯇꯣꯔꯁꯤꯅ ꯑꯁꯨꯟ ꯊꯤꯖꯤꯜꯂꯛꯈꯤꯕ ꯑꯁꯤꯅ ꯒ꯭ꯂꯥꯏꯀꯦꯜ ꯈꯔꯅ ꯇ꯭ꯌꯨꯃꯔꯁꯤꯡꯕꯨ ꯍꯛꯆꯥꯡꯒꯤ ꯏꯝꯃ꯭ꯌꯨꯟ ꯁꯤꯁꯇꯝꯗꯒꯤ ꯉꯥꯛꯊꯣꯛꯏ ꯃꯔꯝꯗꯤ ꯒ꯭ꯂꯥꯏꯀꯦꯟꯁꯤꯡꯅ ꯏꯝꯃ꯭ꯌꯨꯟ ꯁꯦꯜꯁꯤꯡꯕꯨ ‘ꯁꯠ ꯗꯥꯎꯟ’ ꯇꯧꯍꯜꯂꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ ꯒ꯭ꯂꯥꯏꯀꯦꯟꯒꯤ ꯄ꯭ꯔꯣꯇꯦꯛꯇꯤꯚ ꯃꯦꯀꯥꯅꯤꯖꯝ ꯑꯁꯤꯕꯨ ꯃꯥꯡꯍꯟꯅꯕꯒꯤꯗꯃꯛ ꯕꯦꯇꯔꯣꯁꯤ ꯑꯃꯁꯨꯡ ꯃꯍꯥꯛꯀꯤ ꯈꯣꯡꯕꯨꯅ ꯕꯥꯏꯑꯣꯂꯣꯖꯤꯀꯦꯜ ꯐꯥꯔꯃꯥꯁ꯭ꯌꯨꯇꯤꯀꯦꯜꯒꯤ ꯑꯅꯧꯕ ꯃꯈꯜ ꯑꯃ ꯁꯦꯝꯒꯠꯄ ꯉꯝꯈ꯭ꯔꯦ꯫ ꯀ꯭ꯂꯤꯅꯤꯀꯦꯜ ꯇ꯭ꯔꯥꯏꯑꯦꯜꯒꯤ ꯊꯥꯛꯇ ꯂꯩꯔꯤꯕ ꯐꯥꯔꯃ꯭ꯌꯁꯌꯕꯨꯇꯤꯀꯦꯜ (ꯃꯊꯛꯇꯁꯨ ꯄꯟꯖꯈ꯭ꯔꯕ) ꯑꯁꯤꯅ ꯇ꯭ꯌꯨꯃꯔ ꯁꯦꯜꯁꯤꯒꯤ ꯂꯩꯃꯥꯏꯗ ꯂꯩꯔꯤꯕ ꯒ꯭ꯂꯥꯏꯀꯦꯟꯁꯤꯡꯕꯨ ꯊꯨꯒꯥꯏꯕ ꯉꯝꯕ ꯑꯦꯟꯖꯥꯏꯝꯁꯤꯡꯗ ꯒ꯭ꯂꯥꯏꯀꯦꯟ-ꯁ꯭ꯄꯦꯁꯤꯐꯤꯛ ꯑꯦꯟꯇꯤꯕꯣꯗꯤ ꯑꯃ ꯁꯝꯖꯤꯟꯅꯍꯜꯂꯤ꯫ ꯑꯇꯣꯞꯄ ꯑꯃꯔꯣꯝꯗꯅ ꯃꯥꯂꯦꯝꯒꯤ ꯊꯤꯖꯤꯜꯂꯣꯏ ꯀꯌꯥꯅ ꯇ꯭ꯌꯨꯃꯔ ꯀꯌꯥꯃꯨꯛꯇ ꯇꯥꯔꯒꯦꯠ ꯇꯧꯕ ꯉꯝꯕ ꯀ꯭ꯂꯤꯀꯦꯕꯜ ꯑꯦꯟꯇꯤꯕꯣꯗꯤꯁꯤꯡ ꯁꯦꯝꯒꯠꯅꯈ꯭ꯔꯦ꯫ ꯑꯦꯟꯇꯤꯕꯣꯗꯤꯁꯤꯡꯗꯨꯅ ꯇ꯭ꯌꯨꯃꯔꯗ ꯑꯃꯨꯛꯇꯪꯕꯨ ꯅꯞꯁꯤꯟꯕ ꯉꯝꯈ꯭ꯔꯕꯗꯤ ꯑꯦꯟꯇꯤꯕꯣꯗꯤ ꯑꯗꯨꯗ ꯀ꯭ꯂꯤꯛ ꯇꯧꯔꯕ ꯑꯅꯤꯁꯨꯕ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ ꯑꯃ ꯀꯥꯞꯁꯤꯜꯂꯤ꯫ ꯈꯨꯗꯝ ꯑꯣꯏꯅ, PET ꯁ꯭ꯀꯦꯟꯅꯔ ꯁꯤꯖꯤꯟꯅꯗꯨꯅ ꯇ꯭ꯌꯨꯃꯔꯁꯤꯡꯕꯨ ꯇ꯭ꯔꯦꯛ ꯇꯧꯕ ꯅꯠꯇ꯭ꯔꯒ ꯀꯦꯟꯁꯔ ꯁꯦꯜꯁꯤꯡꯕꯨꯗꯤ ꯃꯥꯡꯍꯜꯂꯒ ꯑꯇꯣꯞꯄ ꯁꯦꯜꯁꯤꯡꯗꯗꯤ ꯁꯣꯛꯍꯜꯂꯣꯏꯗꯕ ꯆꯥꯡꯗ ꯀꯥꯞꯁꯤꯟꯈꯤꯕ ꯔꯦꯗꯤꯑꯣꯑꯥꯏꯁꯣꯇꯣꯞ ꯑꯃ ꯑꯣꯏꯕ ꯌꯥꯏ꯫ ꯑꯁꯤꯒꯨꯝ ꯁꯤꯡꯊꯥꯅꯤꯡꯉꯥꯏ ꯑꯣꯏꯔꯕ ꯊꯕꯛ ꯑꯁꯤꯒꯤꯗꯃꯛ ꯀꯦꯔꯣꯂꯤꯟ ꯕꯦꯔꯇꯣꯁꯤꯕꯨ ꯅꯣꯕꯦꯜ ꯄ꯭ꯔꯥꯏꯖ ꯄꯤꯗꯨꯅ ꯏꯀꯥꯏꯈꯨꯝꯅꯕꯁꯤ ꯎꯠꯀꯗꯧꯔꯤꯕꯅꯤ꯫=

ꯑꯩꯈꯣꯏꯒꯤ ꯁꯣꯂꯔ ꯁꯤꯁꯇꯝꯒꯤ ꯃꯅꯨꯡ ꯆꯜꯂꯤꯕ ꯔꯦꯗ ꯄ꯭ꯂꯥꯅꯦꯠ
ꯍꯥꯏꯅꯁꯨ ꯈꯪꯅꯔꯤꯕ ꯃꯥꯔꯁꯇ ꯊꯋꯥꯏ ꯄꯥꯟꯕ ꯄꯣꯠꯁꯛꯁꯤꯡꯒꯤ ꯈꯨꯗꯝ
ꯆꯥꯡꯗꯝꯁꯤꯡ ꯂꯩꯕ꯭ꯔꯥ ꯑꯃꯗꯤ ꯂꯩꯔꯝꯂꯕꯗꯤ ꯃꯗꯨ ꯐꯪꯅꯅꯕ ꯍꯣꯠꯅꯕꯒꯤ
ꯊꯕꯛꯁꯤꯡ ꯑꯁꯤ ꯑꯔꯥꯏꯕ ꯅꯠꯇꯦ꯫ ꯄ꯭ꯂꯥꯅꯦꯠ ꯑꯁꯤꯒꯤ
ꯀꯥ ꯍꯦꯟꯅ ꯈꯨꯗꯣꯡ ꯆꯥꯗꯕ ꯔꯦꯗꯤꯑꯦꯁꯟ ꯑꯃꯗꯤ
ꯀ꯭ꯂꯥꯃꯦꯠ ꯀꯟꯗꯤꯁꯟ ꯀꯌꯥ ꯑꯁꯤꯅ ꯊꯤꯖꯤꯟꯕꯗ ꯈꯨꯗꯣꯡ
ꯆꯥꯗꯕ ꯃꯥꯌꯣꯛꯅꯔꯤ꯫ ꯑꯩꯈꯣꯏꯒꯤ ꯃꯥꯂꯦꯝ ꯄ꯭ꯔꯤꯊꯤꯕꯗ
ꯃꯔꯛ ꯃꯔꯛꯇ ꯃꯃꯥꯡꯉꯩꯗ ꯂꯩꯔꯝꯕ ꯖꯤꯕꯁꯤꯡꯒꯤ ꯁꯔꯨ
ꯁꯌꯥꯡꯁꯤꯡ ꯑꯃꯗꯤ ꯐꯣꯁꯤꯜꯅꯆꯤꯡꯕꯁꯤꯡ ꯐꯪꯕꯒꯨꯝ
ꯃꯥꯔꯁꯀꯤ ꯃꯇꯥꯡꯗꯗꯤ ꯐꯪꯕꯒꯤ ꯋꯥꯐꯝꯁꯤꯡ ꯂꯩꯇ꯭ꯔꯤ, ꯑꯗꯨꯕꯨ
ꯃꯥꯏꯀ꯭ꯔꯣꯕꯥꯏꯑꯣꯂꯣꯖꯤꯁꯠ ꯀꯌꯥꯒꯤ ꯊꯤꯖꯤꯟꯅꯤꯡꯕꯒꯤ
ꯑꯄꯥꯝꯕꯗꯤ ꯂꯦꯞꯄ ꯂꯩꯇ꯭ꯔꯤ꯫
ꯃꯔꯛ ꯑꯁꯤꯗ ꯃꯥꯔꯁꯀꯤ ꯔꯣꯛꯁꯤꯡꯒꯤ ꯃꯑꯣꯡ
ꯃꯇꯧꯒ ꯌꯥꯝꯅ ꯃꯥꯟꯅꯕꯁꯤꯡ Chile ꯒꯤ ꯑꯇꯥꯆꯥꯃꯥ
ꯙꯦꯁꯦꯔꯇ ꯇ ꯂꯩꯔꯤꯕꯁꯤꯡꯒꯤ ꯃꯔꯛꯇꯁꯨ ꯊꯦꯡꯅꯕꯅ
ꯍꯧꯖꯤꯛ ꯗꯦꯖꯥꯔꯠ ꯑꯁꯤꯗ ꯊꯤꯖꯤꯟ ꯈꯣꯠꯁꯤꯟꯕꯒꯤ
ꯊꯕꯛꯁꯤꯡ ꯍꯥꯟꯅꯗꯒꯤ ꯍꯦꯟꯅ ꯀꯟꯅ ꯆꯠꯊꯔꯛꯂꯤ꯫
ꯃꯔꯨ ꯑꯣꯏꯅ Triassic ꯑꯃꯗꯤ ꯓꯨꯔꯥꯁꯁꯤꯆ Era ꯒꯤ
ꯃꯔꯛꯇ ꯃꯔꯨ ꯑꯣꯏꯅ ꯁꯦꯝꯈꯤꯕ ꯔꯣꯛꯁꯤꯡ ꯑꯁꯤꯗ ꯑꯇꯝꯅꯅ
ꯊꯤꯕꯒꯤ ꯈꯣꯡꯖꯪ ꯆꯠꯊꯔꯛꯂꯤ꯫ ꯆꯥꯎꯔꯥꯛꯅ ꯉꯁꯤꯗꯒꯤ ꯆꯍꯤ
ꯃꯤꯂꯤꯌꯟ 200 ꯔꯣꯝꯗ ꯃꯃꯥꯡꯗ ꯄꯥꯛꯇꯛꯅꯅ ꯄ꯭ꯔꯤꯊꯤꯕꯗ ꯂꯩꯔꯝꯕ
ꯖꯤꯕ ꯄꯥꯟꯕ ꯀꯌꯥ ꯃꯨꯠꯁꯤꯕ ꯃꯇꯝꯁ ꯁꯦꯝꯈꯤꯕ Chile ꯒꯤꯗꯦꯁꯦꯔꯇ
ꯑꯁꯤꯒꯤ ꯔꯣꯛꯁꯤꯡꯗ ꯑꯈꯟꯅꯅ ꯖꯤꯕ ꯄꯥꯟꯕꯁꯤꯡ ꯃꯔꯨ ꯑꯣꯏꯅ
ꯃꯥꯏꯀ꯭ꯔꯣꯑꯣꯔꯒꯥꯅꯤꯖꯝꯁꯤꯡꯅ ꯍꯤꯡꯗꯨꯅ ꯂꯩꯕꯒꯤ ꯐꯤꯚꯝ ꯂꯩꯕ꯭ꯔꯥ
ꯍꯥꯏꯕꯗꯨ ꯈꯪꯅꯅꯕ ꯁꯥꯏꯟꯇꯤꯁꯠꯁꯤꯡꯅ ꯍꯣꯠꯅꯔꯤ꯫
ꯍꯤꯔꯝ ꯑꯁꯤꯗ ꯃꯥꯡꯖꯤꯜ ꯊꯥꯅ ꯍꯣꯠꯅꯔꯤꯕ ꯑꯁꯤ ꯈꯄꯥꯅꯤꯁꯍ
Centre of Astrobiology gi Astrobiologist, Laura
ꯈꯥꯅꯆꯍꯦꯉ Garcia ꯅ ꯂꯨꯆꯤꯡꯕ ꯀꯥꯡꯕꯨ ꯑꯁꯤꯅꯤ꯫ ꯀꯔꯤꯒꯨꯝꯕ
ꯃꯈꯣꯏꯅ ꯍꯣꯠꯅꯔꯤꯕ ꯑꯁꯤꯗꯒꯤ ꯀꯥꯟꯅꯔꯕ ꯃꯆꯥꯛ ꯀꯌꯥ ꯐꯪꯕ
ꯉꯝꯂꯒꯗꯤ ꯃꯗꯨꯅ ꯃꯥꯔꯁꯇ ꯃꯈꯥ ꯇꯥꯅ ꯊꯤꯖꯤꯟ ꯈꯣꯠꯆꯤꯟꯗ
ꯑꯗꯨꯛꯀꯤ ꯃꯇꯤꯛ ꯀꯥꯟꯅꯕ ꯑꯣꯏꯒꯗꯧꯔ꯫ ꯈꯥ ꯑꯃꯦꯔꯤꯀꯥꯒꯤ ꯃꯅꯨꯡ
ꯆꯟꯅ ꯑꯅꯗꯦꯁ ꯑꯃꯁꯨꯡ Chilean Coast Range ꯒꯤ ꯁꯔꯨꯛ
ꯅꯠꯇꯕꯗ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯀꯪꯅ ꯂꯩꯕ ꯃꯐꯝ ꯑꯣꯏꯔꯤ꯫ ꯍꯥꯏꯔꯤꯕ ꯃꯐꯝ
ꯑꯁꯤꯒꯤ ꯃꯅꯨꯡꯗ ꯈꯔꯗꯤ ꯅꯣꯡ ꯆꯨꯗꯕ ꯆꯍꯤ 100 ꯍꯦꯟꯕꯁꯨ ꯌꯥꯎꯔꯤ꯫
ꯍꯥꯏꯔꯤꯕ ꯗꯦꯁꯦꯔꯇ ꯑꯁꯤꯗ ꯂꯩꯕ ꯉꯝꯂꯤꯕꯁꯤ ꯔꯦꯁꯤꯂꯦꯅꯇ ꯂꯤꯐꯦ
ꯐꯔꯣꯃ ꯈꯔꯈꯛꯇꯅꯤ ꯑꯃꯗꯤ ꯍꯥꯏꯔꯤꯕꯁꯤꯡ ꯑꯁꯤꯃꯛ ꯃꯥꯔꯁꯇ
ꯂꯩꯔꯝꯒꯅꯤ ꯍꯥꯏꯅꯁꯨ ꯈꯟꯅꯔꯤꯕꯅꯤ꯫ ꯃꯔꯨ ꯑꯣꯏꯅ ꯀꯥ ꯍꯦꯟꯅ ꯈꯨꯗꯣꯡ
ꯆꯥꯗꯕ ꯐꯤꯚꯝꯗꯨꯗ ꯂꯩꯕ ꯉꯝꯕ ꯕꯦꯛꯇꯔꯤꯌꯥ ꯃꯈꯜ ꯈꯔꯗ ꯊꯥꯖꯕ
ꯊꯝꯗꯨꯅ ꯊꯤꯖꯤꯜꯂꯤ꯫
ꯄꯟꯖꯅꯤꯡꯕꯗꯤ, ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ ꯑꯁꯤ ꯁꯥꯎꯊ
ꯑꯃꯦꯔꯤꯀꯥꯒꯤ ꯑꯅꯗꯦꯁ ꯆꯤꯡꯖꯥꯎꯒꯤ ꯃꯅꯤꯡ ꯊꯪꯕ ꯁꯔꯨꯛꯇꯒꯤ ꯍꯧꯔꯒ
ꯄꯦꯁꯤꯐꯤꯛ ꯑꯣꯁꯤꯟꯒ ꯇꯥꯏꯅꯕ Chilean Coast Range

ꯐꯥꯎꯕꯒꯤ ꯃꯔꯛꯇ ꯆꯥꯎꯔꯥꯛꯅ ꯁ꯭ꯀꯋꯥꯔ ꯀꯤꯂꯣꯃꯤꯇꯔ 1600 ꯔꯣꯝ
ꯄꯥꯛ ꯆꯥꯎꯅ ꯀꯣꯜꯂꯤ꯫ ꯃꯔꯨ ꯑꯣꯏꯅ ꯃꯐꯝꯁꯤꯒꯤ ꯀꯥ ꯍꯦꯟꯅ ꯀꯪꯕ
ꯃꯑꯣꯡ ꯃꯇꯧ ꯑꯃꯗꯤ ꯃꯁꯤꯒꯤ ꯃꯐꯝ ꯈꯔꯗ ꯃꯇꯝ ꯀꯨꯏꯅ ꯅꯣꯡ
ꯆꯨꯈꯤꯗꯕꯅ ꯃꯔꯝ ꯑꯣꯏꯗꯨꯅ ꯃꯐꯝꯗꯨꯒꯤ ꯔꯣꯛꯁꯤꯡ ꯑꯗꯨꯒꯤ ꯇꯣꯞ
ꯇꯣꯞꯄ ꯃꯑꯣꯡ ꯃꯇꯧ ꯀꯌꯥ ꯑꯗꯨꯗꯅꯤ ꯍꯦꯟꯅ ꯊꯤꯖꯤꯟꯕꯒꯤ ꯊꯕꯛ
ꯆꯠꯊꯔꯤꯕꯁꯤ꯫ ꯍꯦꯟꯅ ꯅꯨꯡꯉꯥꯏꯔꯤꯕꯗꯤ ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ ꯀꯤ
ꯔꯣꯛꯁꯤꯡꯒꯤ ꯃꯑꯣꯡ ꯃꯇꯧꯒ ꯃꯥꯔꯁꯇ ꯐꯪꯂꯤꯕ ꯔꯣꯛꯁꯤꯡꯒ ꯌꯥꯝꯅ
ꯃꯥꯟꯅꯕꯁꯤꯡ ꯌꯥꯎꯕ ꯑꯁꯤꯅꯤ꯫
ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ ꯀꯤ ꯃꯅꯨꯡ ꯆꯜꯂꯤꯕ ꯑꯅꯇꯣꯐꯥꯒꯥꯁꯇꯥ
ꯍꯥꯏꯔꯤꯕ ꯃꯐꯝ ꯑꯁꯤꯗꯒꯤ ꯈꯥꯔꯣꯝꯗ ꯆꯥꯎꯔꯥꯛꯅ ꯀꯤꯂꯣꯃꯤꯇꯔ
100 ꯔꯣꯝ ꯆꯠꯂꯒ ꯁꯃꯨꯗ꯭ꯔ ꯏꯃꯥꯏꯗꯒꯤ ꯃꯤꯇꯔ ꯂꯤꯁꯤꯡ 3 ꯔꯣꯝ
ꯋꯥꯡꯕꯗ ꯐꯪꯂꯤꯕ ꯔꯣꯛꯁꯤꯡ ꯑꯁꯤꯅꯤ ꯃꯥꯔꯁꯇ ꯐꯪꯂꯤꯕ ꯔꯣꯛꯁꯤꯡꯒ
ꯆꯥꯡꯗꯝꯅꯕꯗ ꯌꯥꯝꯅꯃꯛ ꯃꯥꯟꯅꯕ ꯃꯑꯣꯡ ꯃꯇꯧ ꯊꯦꯡꯅꯔꯤꯕꯁꯤ꯫
ꯋꯥꯐꯝ ꯑꯁꯤꯒ ꯃꯔꯤ ꯂꯩꯅꯅ ꯊꯤꯖꯤꯟ ꯈꯣꯠꯆꯤꯟꯕꯒꯤ ꯋꯥꯔꯣꯜ
ꯀꯌꯥ ꯃꯇꯝ ꯈꯔꯒꯤ ꯃꯃꯥꯡꯗ ꯑꯦꯁꯇ꯭ꯔꯣꯕꯥꯏꯑꯣꯂꯣꯖꯤ ꯖꯔꯅꯦꯜꯗ
ꯐꯣꯡꯈ꯭ꯔꯦ꯫ ꯃꯗꯨꯗ ꯃꯔꯨ ꯑꯣꯏꯅ ꯀꯥꯔꯕꯣꯅꯦꯠꯀꯤ ꯔꯣꯛ ꯃꯈꯜ ꯑꯍꯨꯝꯗ
ꯊꯤꯖꯤꯟꯕꯒꯤ ꯋꯥꯐꯝꯁꯤꯡ ꯄꯜꯂꯤ꯫ ꯀꯥꯔꯕꯣꯅꯦꯠꯀꯤ ꯔꯣꯛꯁꯤꯡꯗ
ꯃꯔꯨ ꯑꯣꯏꯅ ꯄ꯭ꯔꯤꯊꯤꯕꯗ ꯂꯩꯔꯤꯕ ꯖꯤꯕꯁꯤꯡꯒꯤ ꯐꯤꯖꯤꯀꯦꯜ ꯑꯃꯁꯨꯡ
ꯀꯦꯃꯤꯀꯦꯜꯒꯤ ꯃꯆꯥꯛ ꯀꯌꯥ ꯃꯇꯝ ꯀꯨꯏꯅ ꯇꯨꯡꯁꯤꯟꯐꯝ ꯑꯣꯏꯕꯒꯤ
ꯃꯑꯣꯡ ꯃꯇꯧ ꯂꯩꯕꯒ ꯂꯣꯏꯅꯅ ꯍꯥꯏꯔꯤꯕ ꯔꯣꯛ ꯃꯈꯜꯁꯤꯡ ꯑꯁꯤ
ꯃꯥꯔꯇꯁꯨ ꯐꯪꯕ ꯑꯣꯏꯕꯅ ꯌꯥꯝꯅ ꯀꯥꯟꯅꯔꯒꯗꯕ ꯑꯃꯁꯨ ꯑꯣꯏꯔꯤ꯫
ꯑꯇꯥꯆꯥꯃꯥ ꯕꯥꯁꯤꯅ ꯗ ꯐꯪꯂꯤꯕ ꯔꯣꯛꯁꯤꯡ ꯑꯗꯨ Triassic ꯇꯒꯤ
ꯖꯨꯔꯥꯁꯤꯛ ꯏꯔꯥꯗ ꯆꯪꯁꯤꯜꯂꯛꯄꯒꯤ ꯃꯇꯝ ꯑꯁꯤꯒꯤ ꯃꯅꯨꯡꯗ
ꯑꯌꯥꯝꯕꯅ ꯁꯦꯝꯈꯤꯕ ꯑꯣꯏꯕꯅ ꯑꯃꯗꯤ ꯄ꯭ꯔꯤꯊꯤꯕꯤꯒꯤ ꯄꯨꯋꯥꯔꯤꯗ
ꯍꯥꯏꯔꯤꯕ ꯃꯇꯝ ꯑꯗꯨ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯁꯥꯕ ꯃꯇꯝꯁꯤꯡꯒꯤ
ꯃꯅꯨꯡ ꯆꯜꯂꯤ꯫ ꯍꯟꯗꯛꯀꯤ ꯈꯥꯅꯆꯍꯦꯉ Garcia
ꯅ ꯂꯨꯆꯤꯡꯕ ꯀꯥꯡꯕꯨ ꯑꯁꯤꯅ ꯔꯣꯛꯁꯤꯡ ꯑꯗꯨꯗ
ꯐꯪꯕ ꯁꯦꯜ ꯃꯦꯝꯕ꯭ꯔꯦꯟ, ꯄ꯭ꯔꯣꯇꯤꯟꯁ ꯑꯃꯗꯤ
ꯏꯝꯃ꯭ꯌꯨꯅꯣꯂꯣꯖꯤꯀꯦꯜ ꯃꯣꯂꯤꯀ꯭ꯌꯨꯜ ꯍꯥꯏꯔꯤꯕ ꯃꯆꯥꯛ
ꯑꯍꯨꯝ ꯑꯁꯤꯗ ꯃꯔꯨ ꯑꯣꯏꯅ ꯊꯤꯖꯤꯟ-ꯈꯣꯠꯆꯤꯜꯂꯤ꯫
ꯄꯟꯕ ꯌꯥꯕꯗꯤ, ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ ꯑꯣꯏꯔꯤꯕ
ꯃꯐꯝ ꯑꯁꯤꯒꯤ ꯃꯅꯨꯡ ꯆꯟꯅ ꯃꯃꯥꯡꯉꯩ ꯃꯇꯝ
ꯑꯃꯗꯗꯤ Pampa ꯗꯦꯂ Tamarugal ꯍꯥꯏꯅ
ꯈꯪꯅꯕ ꯃꯐꯝ ꯑꯁꯤꯗ ꯎ ꯑꯃꯗꯤ ꯄꯥꯝꯕꯤꯁꯤꯡ ꯃꯔꯥꯡ
ꯀꯥꯏꯅ ꯍꯧꯔꯝꯃꯤ ꯍꯥꯏꯕꯒꯤ ꯋꯥꯐꯝꯁꯨ ꯂꯩꯔꯤ꯫ ꯑꯗꯨꯕꯨ
18 ꯑꯃꯁꯨꯡ 19 ꯁꯨꯕ ꯆꯍꯤ ꯆꯥꯗ ꯄꯥꯛꯇꯛꯅꯅ ꯎꯃꯪ-
ꯋꯥꯃꯪ ꯀꯣꯛꯊꯣꯛꯈꯤꯕ ꯑꯃꯗꯤ ꯀꯥ ꯍꯦꯟꯅ ꯈꯣꯅꯤꯒꯤ
ꯄꯣꯠꯊꯣꯛꯁꯤꯡ ꯂꯧꯊꯣꯛꯈꯤꯕꯗꯒꯤ ꯂꯩꯀꯪꯂꯥꯒꯤ
ꯐꯤꯚꯝ ꯑꯁꯤ ꯑꯣꯏꯔꯛꯈꯤꯕꯅꯤ ꯍꯥꯏꯕꯒꯤ ꯃꯣꯠꯁꯨ
ꯁꯥꯏꯟꯇꯤꯁꯠꯁꯤꯡꯒꯤ ꯃꯔꯛꯇ ꯄꯤꯅꯔꯤ꯫ ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ
ꯑꯁꯤ ꯑꯩꯈꯣꯏꯒꯤ ꯃꯥꯂꯦꯝ ꯄ꯭ꯔꯤꯊꯤꯕꯤ ꯑꯁꯤꯒꯤ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯂꯤꯔꯕ
ꯂꯩꯀꯪꯂꯥ ꯑꯃꯅꯤ ꯍꯥꯏꯅꯁꯨ ꯂꯧꯅꯔꯤ꯫
ꯄꯟꯕ ꯌꯥꯕ ꯑꯃꯗꯤ, ꯌꯥꯝꯅ ꯃꯃꯤꯡ ꯆꯠꯂꯤꯕ ꯇꯦꯂꯤꯚꯤꯖꯟ
siriAeL Space Odyssey - Voyage to the Planets
ꯍꯥꯏꯕꯗꯨꯒꯤ ꯐꯤꯜꯝ ꯅꯝꯕꯗ ꯃꯥꯔꯁꯀꯤ ꯁꯤꯟ ꯑꯣꯏꯅ ꯎꯍꯟꯅꯕ
ꯍꯣꯠꯅꯕꯗ ꯃꯐꯝꯁꯤ ꯌꯥꯝꯅ ꯃꯔꯨ ꯑꯣꯏꯕ ꯐꯤꯜꯝ ꯅꯝꯐꯝ ꯑꯃ
ꯑꯣꯏꯈꯤ꯫ ꯃꯁꯤꯗꯁꯨ ꯅꯠꯇꯅ ꯃꯥꯔꯁꯇ ꯊꯤꯖꯤꯟꯕꯒꯤ ꯊꯕꯛ
ꯆꯠꯊꯔꯤꯕ Viking 1, Viking 2, Phoenix Mars Lander
ꯀꯌꯥꯅ ꯄꯤꯔꯛꯄ ꯋꯥꯔꯣꯜ ꯀꯌꯥꯃꯔꯨꯝ ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ ꯀꯤꯒ
ꯆꯥꯡꯗꯝꯅꯗꯨꯅ ꯌꯦꯡꯁꯤꯟꯈꯤ꯫ ꯑꯇꯣꯞꯄ ꯅꯦꯁꯅꯜ ꯑꯦꯔꯣꯅꯣꯇꯤꯛꯁ
ꯑꯦꯟꯗ ꯁ꯭ꯄꯦꯁ ꯑꯦꯗꯃꯤꯅꯤꯁꯇ꯭ꯔꯦꯁꯟ, NASA ꯅ ꯁꯦꯟꯊꯪ
ꯄꯤꯊꯗꯨꯅ Earth-Mars Cave Detection Programme
ꯅꯆꯤꯡꯕꯁꯨ ꯄꯥꯏꯈꯠꯂꯤ꯫
ꯑꯇꯥꯆꯥꯃꯥ ꯗꯦꯁꯦꯔꯇ ꯇ ꯑꯁꯨꯝꯅ ꯊꯤꯖꯤꯟꯕ ꯑꯁꯤꯗꯒꯤ
ꯐꯪꯂꯛꯄ ꯀꯥꯟꯅꯔꯕ ꯋꯥꯐꯝ ꯀꯌꯥꯅ ꯃꯤꯑꯣꯏꯕꯅ ꯃꯥꯁꯔꯇ ꯑꯍꯦꯟꯕ
ꯃꯤꯠꯌꯦꯡ ꯊꯝꯗꯨꯅ ꯃꯈꯥ ꯇꯥꯅ ꯊꯤꯖꯤꯟꯕꯗ ꯑꯃꯁꯨꯡ ꯇꯨꯡꯗ
ꯄꯥꯏꯈꯠꯂꯛꯀꯗꯕ ꯊꯤꯖꯤꯟ-ꯈꯣꯠꯆꯤꯟꯕꯒꯤ ꯊꯕꯛꯁꯤꯡꯗ ꯌꯥꯝꯅ
ꯑꯆꯧꯕ ꯃꯇꯦꯡ ꯑꯣꯏꯔꯒꯅꯤ꯫=

ꯑꯇꯥꯆꯥꯃꯥ ꯙꯦꯁꯦꯔꯇꯇ ꯊꯤꯖꯤꯟꯕ
- ÿ- ꯑꯙꯤꯀꯥꯔꯤꯃꯌꯨꯝ ꯒꯤꯠꯆꯟꯆ꯭ꯔ ꯁꯔꯃ -ÿ-

(ꯑꯣꯏꯗꯒꯤ) Carolyn Bertozzi, Morten Meldal
ꯑꯃꯁꯨꯡ Barry ꯈꯍꯥꯔꯄꯂꯦꯁꯁ (ꯀꯦꯃꯤꯁꯇ꯭ꯔꯤꯗ
ꯑꯅꯤꯁꯨꯕ ꯅꯣꯕꯦꯜ ꯄ꯭ꯔꯥꯏꯖ ꯐꯪꯂꯤꯕ)
ꯑꯩꯖꯥꯏꯗ ꯑꯃꯁꯨꯡ ꯑꯜꯀꯥꯏꯟꯁꯤꯡꯕꯨ
ꯀꯣꯔꯤꯒꯤ ꯑꯥꯏꯑꯣꯟꯁꯤꯡꯅ ‘ꯀ꯭ꯂꯤꯛ’
ꯇꯧꯔꯒ ꯊꯨꯅ ꯑꯃꯁꯨꯡ ꯏꯔꯥꯏ ꯂꯥꯏꯅ
ꯁꯝꯖꯤꯟꯅꯍꯟꯕꯒꯤ ꯃꯑꯣꯡ ꯇꯥꯛꯄ꯫