

$[(Cu_{0.74}Ni_{0.26})_2(5,5' - dmbpy)_2(OH)(H_2O)(ac)](ClO_4)_2$  -  
**an unconventional quasi-two-dimensional system**

**P. Vrábel<sup>a</sup>, M. Orendáč<sup>a</sup>, M. Kajňaková<sup>a</sup>, I. Kočanová<sup>b</sup>, J. Černák<sup>b</sup>**

<sup>a</sup>Centre of Low Temperature Physics of the Faculty of Science of P. J. Šafárik  
University, Park Angelinum 9, SK-041 54 Košice, Slovakia

<sup>b</sup>Department of Inorganic Chemistry, P. J. Šafárik University, Moyzesova 11, SK-041  
54 Košice, Slovakia

The results of the investigation of magnetic susceptibility, magnetization and specific heat of the title complex are reported. The complex belongs to a class of compounds, which displays, thanks to their relation to the low-dimensional mixed spin systems, unconventional magnetic properties. Both magnetic  $M(II)$  ( $M = Cu, Ni$ ) atoms in the dinuclear unit are linked through an aqua, a hydroxo and a syn-syn acetato bridging ligand forming 2d structure through  $\pi-\pi$  interactions. The investigation of the temperature dependence of susceptibility yielded  $g = 2.10$ ,  $\Theta = 4.69$  K and  $C = 1.05$  emu.K/mol, respectively. This result is in strike disagreement with exchange coupling  $J/k \approx 170$  K found in analogous  $Cu$  complex. The origin of the observed behaviour will be discussed. In addition, the magnetization was found to be in a good agreement with the predictions resulting from the models based on both free spins and  $S = 1/2$  and  $S = 1$  dimers with infinitely strong ferromagnetic interaction, respectively. Round maximum in specific heat located around 1 K suggests planar single-ion anisotropy  $D/k = 2.97$  K. The work was supported by projects VEGA 1/0078/09 and 1/0089/09.

13.4 cm

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**Corresponding author :**

Peter Vrábel

**Address for correspondence :**

Centre of Low Temperature Physics of the Faculty of Science of P. J. Šafárik University,  
Park Angelinum 9, SK-041 54 Košice, Slovakia

**Email address :**

peter.vrabel@student.upjs.sk

9.7 cm