

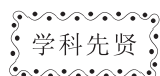
微生物学报

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.....Wenfeng Zhang, Zhuanghua Li, Jingtang Chen, Hongwei Shao, Yecheng Chen, Shulin Huang.11 (1785)	
Metabolic pattern of pig hindgut bacteria on aromatic amino acids by an <i>in vitro</i> fermentation method	
.....Meilei Ma, Xiangyu He, Weiyun Zhu.11 (1793)	
Removal of Ni (II) and microbial dynamics in single-chamber microbial electrolysis cell	
.....Xin Zhao, Yining Wu, Ling Wang, Weiming Li, Min Jin, Shuai Li.11 (1801)	
A novel phylogenetic lineage clustered by <i>NIa</i> gene of <i>Sugarcane streak mosaic virus</i> Yunnan isolates	
.....Zhen He, Wenfeng Li, Shifang Li.11 (1810)	
Characterization of D-lactate dehydrogenase isozymes from a D-lactic acid producing bacterium <i>Sporolactobacillus inulinus</i>	
.....Danru Zhang, Lu Zheng, Bin Wu, Bingfang He.11 (1818)	
Expression, purification and characterization of Rv3194c protein from <i>Mycobacterium tuberculosis</i>	
.....Dongyue Zhao, Lili Lin, Fuli Wen.12 (1855)	
Characterization and microbial community shifts of rice strawdegrading microbial consortia	
.....Chunfang Wang, Shichun Ma, Yan Huang, Laiyan Liu, Hui Fan, Yu Deng.12 (1868)	
Identification and phytotoxic activity of fungus QTYC-51 from the gut of <i>Pantala flavescens</i> larvae	
.....Liping Jin, Yun Zhang, Xiao Xu, Xiaohui Xiao, Yinglao Zhang.12 (1875)	

Characterization of phenotype and expression regulation of an RND-type multidrug efflux pump in *Mesorhizobium huakuii* 7653R ··
 Ziling Liu, Jieli Peng, Youguo Li.12 (1882)

Construction of SPA7074-deficient mutant of biocontrol strain *Streptomyces pactum* Act12 and characterization of its secondary metabolites ·· Xuemei Duan, Feiyang Zhao, Xia Yan, Quanhong Xue, Xiaoxia Li, Bingjie Wen, Lianghui Jia, Hua Yan.12 (1891)

Diversity and antimicrobial activities of cultivable bacteria isolated from Jiaozhou Bay
 Yiting Wang, Chuanbo Zhang, Lin Qi, Xiaoqiang Jia, Wenyu Lu.12 (1900)

Cloning, mutagenesis and symbiotic phenotype of three lipid transfer protein encoding genes from *Mesorhizobium huakuii* 7653R ···
Yanan Li, Xiaobo Zeng, Xuejuan Zhou, Youguo Li.12 (1911)

Role of CRISPR/Cas systems in drug-resistance and virulence and the effect of IS600 on the expression of *cse2* in *Shigella* ···
 Lijuan Hong, Bing Zhang, Guangcai Duan, Wenjuan Liang, Yingfang Wang, Shuaiyin Chen, Haiyan Yang, Yuanlin Xi.12 (1923)

Immunological characteristic comparison of different genetic polymorphism recombinant of FnBPA-A of bovine *Staphylococcus aureus* strain Caidie Wang, Yan Su1, Linlin Su, Haina Wei, Baojiang Zhang.12 (1931)

Cloning, heterologous expression and characterization of a thermostable esterase from *Bacillus* sp. HJ14 for diethyl-phthalate degradationZheng Peng, Junmei Ding, Yunjuan Yang, Junjun Li, Yuelin Mu, Zunxi Huang.12 (1943)

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