

Abbreviations
$\sim M_4 = \text{aenc}(\text{make_presentation}(\text{didU}, (\text{nonceU}_3, \text{nonceB}_3), \text{make_credential}(\text{didB}, \text{didU}, \text{data}, \text{sign}((\text{didB}, \text{didU}, \text{data}), \text{skB})), \text{sign}((\text{didU}, (\text{nonceU}_3, \text{nonceB}_3), \text{make_credential}(\text{didB}, \text{didU}, \text{data}, \text{sign}((\text{didB}, \text{didU}, \text{data}), \text{skB}))), \text{skU})), \text{pk}(\text{skB}))$

