Abbreviations
~M_11 = exp(g,Y_1)
~M_12 = encxor((a_6,(id(pk(sk_4),exp(g,ltdh_3)),(sign((sSignature1,(id(pk(sk_4),exp(g,ltdh_3)),(hash((wrap(exp(g,Y_1)),wrap(hash((wrap(method_zero),(wrap(a_3),(wrap(exp(g,X_1)),(wrap(a_4),a_5)))))))),(pk(sk_4),(a_7,edhoc_kdf(hkdfextract(hash((wrap(exp(g,Y_1)),wrap(hash((wrap(method_zero),(wrap(a_3),(wrap(exp(g,X_1)),(wrap(a_4),a_5)))))))),exp(exp(g,X_1),Y_1)),stwo,(id(pk(sk_4),exp(g,ltdh_3)),(hash((wrap(exp(g,Y_1)),wrap(hash((wrap(method_zero),(wrap(a_3),(wrap(exp(g,X_1)),(wrap(a_4),a_5)))))))),(pk(sk_4),a_7))),hash_length))))))),srep,sk_4),a_7))),edhoc_kdf(hkdfextract(hash((wrap(exp(g,Y_1)),wrap(hash((wrap(method_zero),(wrap(a_3),(wrap(exp(g,X_1)),(wrap(a_4),a_5)))))))),exp(exp(g,X_1),Y_1)),stzero,hash((wrap(exp(g,Y_1)),wrap(hash((wrap(method_zero),(wrap(a_3),(wrap(exp(g,X_1)),(wrap(a_4),a_5)))))))),plaintext_length))
~M_13 = a_6

A trace has been found.