AE-422: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

Date: 2025-01-21
Tags: [Ru(bpy)3]Cl2*6 H2O | Stocksolution | AE | HTE
Category: HTE
Status: Done
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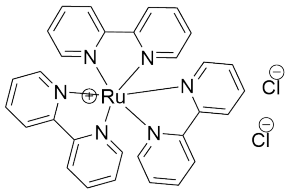
Reaction scheme/sample structure



6 H_2O

$[Ru(bpy)_3]Cl_2 * 6H_2O$
Chemical Formula: $C_{30}H_{36}Cl_2N_6O_6Ru$
Molecular Weight: 748,62400

$Na_2S_2O_8$
Chemical Formula: $Na_2O_8S_2$
Molecular Weight: 238,09154

Chemical Formula: $CHNaO_3$
Molecular Weight: 84,00577

$NaHCO_3$

Na_2CO_3
Chemical Formula: CNa_2O_3
Molecular Weight: 105,98754

H_2O
water
Chemical Formula: H_2O
Molecular Weight: 18,01500

Literature/reference experiments

Literature	https://doi.org/10.1021/acscatal.6b02595
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Related experiment	HTE - AE-383: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O HTE - AE-405: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O I HTE - AE-414: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

Prepared solutions

Name	Chemical	Cas Number	Amount [mmol]	$Mass_{theo}$ [mg]	$Mass_{exp}$ [mg]	Molar mass [g/mol]	Volume(added Milli-Q water) [mL]	Optained conc.
Ru II	[Ru(bpy)3]Cl2 *6 H2O	50525-27-4	3.0 µmol	2.246	2.15	748.62	14.36	200 µM
Ox III	Sodium persulfate	7775-27-1	1.8	428.56	428.57	238.09	15	120 mM
NaHCO3 I	Sodiumhydrogen carbonate	144-55-8	7.2	604.84	605.26	84.006	10	0.72 M
NaHCO3 II	Sodiumhydrogen carbonate	144-55-8	15	1260.1	1260.11	84.006	15	1 M
NaHCO3 III	Sodiumhydrogen carbonate	144-55-8	0.5	42.00	42.18	84.006	10	0.05 M
Na2CO3 I	Sodium carbonate (anhydrous)	497-19-8	15	1589.8	1590.04	105.988	15	1 M

Na2CO3 II	Sodium carbonate (anhydrous)	497-19-8	3	317.96	317.84	105.988	10	0.3 M

Procedure/observations

Date	Time	Step	Observations
21.01	9:30	Each chemical, was weighed in a saperate 15 mL snap-on cap vial.	
	9:50	To each vial Milli-Q water (see Prepared solutions table) was added using a 2 figure scale.	
	9:50	All samples were shortly vortexted to obtain/ensure a homogeneous solution (Vortex VWR VV3, 4/6 intensity of shaking)	
	10:05	The solutions were transfferred into Chem Speed Vials	

Linked experiments

- AE-265: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

- AE-270: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

- AE-311: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O I

- AE-323: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

- AE-334: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

- AE-342: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O I

HTE - AE-365: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

HTE - AE-368: Preparation of stock solutions of [Ru(pby)3]Cl2 * 6 H2O

HTE - AE-369: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

HTE - AE-372: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

HTE - AE-380: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O I

HTE - AE-383: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

HTE - AE-395: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

HTE - AE-405: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O I

HTE - AE-414: Preparation of stock solutions for the irradiation of [Ru(bpy)3]Cl2 * 6 H2O

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