

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

C Number:	C54842
Cage Range:	All
Date Range:	All
Reasons For Removal:	All
Removal Date Range:	All
Treatment Groups:	All
Study Gender:	Female

ANIMAL ID: 1_001	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos	Cytoplasmic Vacuolization Hyperplasia, Focal Spongiosis	
Brain		Atrophy, Nos	
Eye	Retina Crystalline Lens	Cataract	
Heart	Atrium	Thrombosis, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic Hyperplasia, Nos	
Pancreas	Bile Duct Acinus	Atrophy, Diffuse	
Stomach	Forestomach Glandular Stomach	Hyperplasia, Epithelial Ulcer, Nos	
Thyroid		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_002	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Hematopoietic	
Esophagus		Dilatation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Spleen		Hematopoiesis	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_003	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Adrenal gland		Congestion, Nos	
	Cortex Nos	Degeneration, Lipoid	
Eye	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_004	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Cytoplasmic Change, Eosinophilic	
Spleen		Hematopoiesis	
Stomach	Forestomach	Hyperplasia, Epithelial	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_005	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Degeneration, Cystic	
	Bile Duct	Fibrosis	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Thyroid		Follicular-Cell Adenoma	
		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_006	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Intestine Large	Colon	Parasitism	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_007	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Cortex Nos	Degeneration, Lipoid Hyperplasia, Focal Hypertrophy, Focal	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina Crystalline Lens Cornea	Atrophy, Nos Cataract Inflammation, Nos	
Kidney		Nephropathy Pyelonephritis, Acute	
Liver		Cytoplasmic Change, Basophilic Hyperplasia, Nodular Hyperplasia, Nos	
Lung	Bile Duct	Congestion, Nos	
Lymph node	Mesenteric Lymph Node	Hemorrhage	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Forestomach Glandular Stomach Glandular Stomach	Hyperplasia, Epithelial Inflammation, Nos Ulcer, Nos	
Thymus		Inflammation, Acute	
Thyroid		Hyperplasia, C Cell Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_008	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Eye	Crystalline Lens	Cataract	
		Collapse	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_009	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland		Congestion, Nos	
	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
		Neoplastic Nodule	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Pituitary gland	Intermedia	Adenoma, Nos	
Spleen		Hematopoiesis	
Stomach	Glandular Stomach	Inflammation, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_010	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Adrenal gland		Congestion, Nos	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Spleen		Hematopoiesis	
Thyroid		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 1_011	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Glandular Stomach	Ulcer, Nos	
Thyroid		Focal Cellular Change	
		Follicular-Cell Adenoma	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH		-	

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_012	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Moribund Sacrifice	HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Hematopoietic	
Esophagus		Inflammation, Acute/Chronic	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
		Inflammation, Nos	
Kidney		Nephropathy	
Lung		Hemorrhage	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Edema, Nos	
Spleen		Hematopoiesis	
Stomach	Glandular Stomach	Ulcer, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_013	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Moribund Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Hematopoietic	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Focal	
		Edema, Nos	
Spleen		Hematopoiesis	
Unspecified		Cyst, Epidermal Inclusion	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_014	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Hematopoietic	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Salivary gland		Hyperplasia, Nos	
Stomach	Fundal Gland	Hyperplasia, Nos	
	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 1_015	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_016	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Necrosis, Coagulative	
Bone marrow		Atrophy, Nos	
Eye	Retina	Atrophy, Nos	
		Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Clear-Cell Change	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thyroid		Cyst, Ultimobranchial	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_017	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Fibroadenoma	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Focal Cellular Change	
Thyroid		Cyst, Ultimobranchial	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_018	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Intestine Large	Colon	Parasitism	
Liver		Cytoplasmic Change, Basophilic	
Pancreas	Acinus	Atrophy, Diffuse	
Thyroid		Cyst, Ultimobranchial	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_019	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
Lung		Congestion, Nos	
Ovary		Inflammation, Acute	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thyroid		Cyst, Ultimobranchial	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_020		TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland	Cortex Nos	Degeneration, Lipoid		
	Medulla	Hyperplasia, Focal		
Eye	Cortex Nos	Necrosis, Coagulative		
	Retina	Atrophy, Nos		
	Crystalline Lens	Cataract		
	Cornea	Inflammation, Nos		
Heart	Myocardium Nos	Degeneration, Nos		
Intestine Small	Mesentery Nos	Inflammation, Granulomatous		
	Mesentery Nos	Necrosis, Fat		
Kidney		Nephropathy		
Liver		Cytoplasmic Change, Basophilic		
		Cytoplasmic Vacuolization		
		Degeneration, Cystic		
	Bile Duct	Hyperplasia, Nos		
	Forestomach	Hyperplasia, Epithelial		
Stomach	Glandular Stomach	Inflammation, Necrotizing		
		Focal Cellular Change		
Thyroid		Hyperplasia, C Cell		
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_021	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Cytoplasmic Vacuolization	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
Thyroid		Cyst, Ultimobranchial	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_022	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Angiectasis	
	Cortex Nos	Degeneration, Lipoid	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Jejunum	Edema, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Thyroid		Hyperplasia, C Cell	
Unspecified		Cyst, Epidermal Inclusion	
PRIMARY CAUSE OF DEATH	-		

ANIMAL ID: 1_023	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Eye	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Abnormal Curvature	
		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
Thyroid		Cyst, Ultimobranchial	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_024	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Angiectasis	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Lung		Inflammation, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Spleen		Hematopoiesis	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
Thyroid		Cyst, Follicular Nos	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Hyperplasia, Cystic	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 1_025	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Degeneration, Lipoid	
	Bile Duct	Hyperplasia, Nos	
Lung		Inflammation, Nos	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Forestomach	Inflammation, Nos	
	Glandular Stomach	Ulcer, Nos	
Thymus		Depletion, Lymphoid	
Thyroid		Cyst, Ultimobranchial	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_026	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid Necrosis, Coagulative	
Eye	Retina Crystalline Lens Cornea	Atrophy, Nos Cataract Inflammation, Nos	
Intestine Small	Jejunum	Lymphangiectasis	
Kidney		Nephropathy	
Liver	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus Acinus	Atrophy, Diffuse Atrophy, Focal	
Stomach	Fundal Gland Glandular Stomach	Hyperplasia, Nos Inflammation, Necrotizing	
Thyroid		Hyperplasia, C Cell Hyperplasia, Follicular Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus	Endometrium	Hyperplasia, Cystic	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_027	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Esophagus		Inflammation, Acute Necrotizing	
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
Lung		Inflammation, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Spleen		Depletion, Lymphoid	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_028		TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland	Cortex Nos	Degeneration, Lipoid		
Bone	Femur	Fibrous Osteodystrophy		
Eye	Retina	Atrophy, Nos		
	Crystalline Lens	Cataract		
	Cornea	Inflammation, Nos		
Heart	Myocardium Nos	Degeneration, Nos		
Kidney		Nephropathy		
Liver		Cytoplasmic Change, Basophilic		
		Cytoplasmic Vacuolization		
	Bile Duct	Hyperplasia, Nos		
Lung		Inflammation, Nos		
Mammary gland	Nipple	Cyst, Epidermal Inclusion		
Ovary		Cyst, Nos		
Pancreas	Acinus	Atrophy, Focal		
	Acinus	Focal Cellular Change		
Spleen		Inflammation, Granulomatous		
Stomach	Glandular Stomach	Inflammation, Necrotizing		
Thyroid		Hyperplasia, C Cell		
		Hyperplasia, Follicular Cell		
Uterus	Endometrium	Cyst, Nos		
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_029	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
Lung		Inflammation, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Skin		Acanthosis	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Forestomach	Squamous Cell Papilloma	
	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_030	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Abnormal Curvature	
		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Salivary gland		Atrophy, Nos	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Forestomach	Inflammation, Nos	
Thyroid		Cyst, Ultimobranchial	
		Follicular-Cell Adenoma	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Hyperplasia, Cystic	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 1_031	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization	
	Cortex Nos	Hyperplasia, Focal	
	Medulla	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Large	Cecum, Colon	Edema, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
		Degeneration, Cystic	
Lung		Pneumonia, Aspiration	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Salivary gland		Atrophy, Nos	
Spleen		Hematopoiesis	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Fundal Gland	Hyperplasia, Nos	
	Glandular Stomach	Ulcer, Nos	
Thyroid		Focal Cellular Change	
		Follicular-Cell Carcinoma	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Trachea		Follicular-Cell Carcinoma, Invasive	
Unspecified	Chest	Fibroma	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_032		TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland	Cortex Nos	Degeneration, Lipoid		
Bone marrow		Hyperplasia, Reticulum Cell		
Eye	Retina	Atrophy, Nos		
	Crystalline Lens	Cataract		
	Cornea	Inflammation, Nos		
Kidney		Nephropathy		
Liver		Cytoplasmic Change, Basophilic		
	Bile Duct	Hyperplasia, Nos		
Ovary		Cyst, Nos		
Pancreas	Acinus	Atrophy, Diffuse		
		Edema, Nos		
Skin	Face	Inflammation, Nos		
Spleen		Hematopoiesis		
Stomach	Glandular Stomach	Inflammation, Necrotizing		
Thyroid		Follicular-Cell Adenoma		
		Hyperplasia, C Cell		
		Hyperplasia, Follicular Cell		
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_033		TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland	Cortex Nos	Degeneration, Lipoid		
Bone marrow		Hyperplasia, Reticulum Cell		
Eye	Retina	Atrophy, Nos		
	Crystalline Lens	Cataract		
	Cornea	Inflammation, Nos		
Heart	Myocardium Nos	Degeneration, Nos		
Kidney		Nephropathy		
Liver		Cytoplasmic Change, Basophilic		
		Focal Cellular Change		
	Bile Duct	Hyperplasia, Nos		
Pancreas	Acinus	Atrophy, Diffuse		
Stomach	Fundal Gland	Hyperplasia, Nos		
	Glandular Stomach	Ulcer, Nos		
Thyroid		Hyperplasia, C Cell		
		Hyperplasia, Follicular Cell		
Uterus	Endometrium	Cyst, Nos		
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_034	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
		Degeneration, Lipoid	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
	Anterior Pituitary	Cyst, Follicular Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_035	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Cortex Nos	Angiectasis Degeneration, Lipoid Hyperplasia, Focal Hyperplasia, Reticulum Cell	
Bone marrow		Atrophy, Nos	
Eye	Retina Crystalline Lens Cornea	Cataract Inflammation, Nos Nephropathy Cytoplasmic Change, Basophilic Degeneration, Cystic	
Kidney		Hyperplasia, Nos Inflammation, Acute	
Liver	Bile Duct Mandibular Lymph Node	Atrophy, Diffuse Hyperplasia, Chromophobe Cell Inflammation, Nos Hyperplasia, C Cell Hyperplasia, Follicular Cell	
Lymph node	Acinus	Cyst, Nos	
Pancreas	Anterior Pituitary		
Pituitary gland	Glandular Stomach		
Stomach			
Thyroid			
Uterus	Endometrium		
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_036	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Large	Colon	Parasitism	
Kidney		Nephropathy	
Liver	Bile Duct	Hyperplasia, Nos	
Lung		Congestion, Nos	
Mammary gland	Nipple	Cyst, Epidermal Inclusion	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Ulcer, Nos	
Thyroid		Cyst, Ultimobranchial	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_037	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lung		Inflammation, Nos	
Pancreas	Acinus	Atrophy, Focal	
Parathyroid gland		Hyperplasia, Nos	
Stomach	Glandular Stomach	Inflammation, Necrotizing	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_038	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
	Medulla	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
	Pericardium Nos	Granuloma, Foreign Body	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Dilatation, Ducts	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thyroid		Cyst, Ultimobranchial	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Unspecified	Mediastinum Nos	Granuloma, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_039	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Stomach	Glandular Stomach	Inflammation, Necrotizing	
Thyroid		C-Cell Adenoma	
		Cyst, Ultimobranchial	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_040		TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland	Cortex Nos	Degeneration, Lipoid		
Bone marrow		Hyperplasia, Hematopoietic		
Brain		Spongiosis		
Eye	Retina	Atrophy, Nos		
	Crystalline Lens	Cataract		
	Cornea	Inflammation, Nos		
Heart	Myocardium Nos	Degeneration, Nos		
Intestine Small	Mesentery Nos	Necrosis, Fat		
Kidney		Nephropathy		
Liver		Cytoplasmic Change, Basophilic		
	Bile Duct	Hyperplasia, Nos		
Mammary gland	Nipple	Cyst, Epidermal Inclusion		
Ovary		Cyst, Nos		
Pancreas	Acinus	Atrophy, Diffuse		
Stomach	Fundal Gland	Hyperplasia, Nos		
	Glandular Stomach	Inflammation, Necrotizing		
Thyroid		Hyperplasia, Follicular Cell		
Unspecified	Multiple Organs Nos	Hemorrhage		
	Multiple Organs Nos	Leukemia, Mononuclear Cell		
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_041	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Degeneration, Cystic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Stomach	Glandular Stomach	Inflammation, Necrotizing	
Thyroid		Focal Cellular Change	
		Follicular-Cell Carcinoma	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Hyperplasia, Cystic	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_042	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Medulla	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
Lung		Inflammation, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Spleen		Hemosiderosis	
Stomach	Glandular Stomach	Ulcer, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_043	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lung		Alveolar/Bronchiolar Adenoma	
		Hyperplasia, Alveolar Epithelium	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Cyst, Follicular Nos	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_044	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland		Congestion, Nos	
	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Pancreas	Acinus	Atrophy, Diffuse	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Unspecified		Inflammation, Chronic	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 1_045	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Hyperplasia, Focal Pheochromocytoma	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina Crystalline Lens	Atrophy, Nos Cataract Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lymph node	Mandibular Lymph Node	Inflammation, Acute	
Pancreas	Acinus Acinus	Atrophy, Diffuse Atrophy, Focal	
Salivary gland		Edema, Nos	
Stomach	Glandular Stomach	Ulcer, Nos	
Thyroid		Cyst, Ultimobranchial Hyperplasia, C Cell Hyperplasia, Follicular Cell	
Uterus	Endometrium	Cyst, Nos Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_046	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Dosing Accident	HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lung		Congestion, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Thyroid		Follicular-Cell Adenoma	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 1_047	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Stomach	Glandular Stomach	Inflammation, Necrotizing	
Thyroid		Hyperplasia, C Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_048	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 1_049	TRT#: 1 DOSE: 100.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Unspecified	Cheek	Cyst, Epidermal Inclusion	
	Cheek	Inflammation, Acute/Chronic	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 1_050	TRT#: 1	SEX: Female	DAY ON TEST:
	DOSE: 100.0 MG/KG	DISP: Dosing Accident	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Angiectasis	
	Cortex Nos	Necrosis, Coagulative	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Lung		Foreign Body, Vegetable	
		Pneumonia, Aspiration	
Pancreas	Acinus	Atrophy, Diffuse	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_001	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 2_002	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
	Cortex Nos	Hypertrophy, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Ovary		Cyst, Nos	
Pituitary gland	Anterior Pituitary	Angiectasis	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Skin	Back	Inflammation, Nos	
		Inflammation, Nos	
Thyroid		Hyperplasia, C Cell	
Uterus	Endometrium	Inflammation, Acute	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_003	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland		Cortical Adenoma	
	Cortex Nos	Hypertrophy, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Urinary bladder		Inflammation, Nos	
Uterus		Dilatation, Nos	
		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_004	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
	Medulla	Hyperplasia, Focal	
	Cortex Nos	Hypertrophy, Focal	
Clitoral gland		Hyperplasia, Nos	
		Impaction, Nos	
		Inflammation, Chronic	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Skin		Acanthosis	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_005	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
Parathyroid gland		Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Spleen		Hemosiderosis	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Zymbal gland		Impaction, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_006	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Lymph node	Mesenteric Lymph Node	Dilatation, Sinus	
Mammary gland		Dilatation, Ducts	
Pancreas	Acinus	Atrophy, Focal	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH			
	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_007	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
Lymph node	Mesenteric Lymph Node	Dilatation, Sinus	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
	Islets	Islet-Cell Adenoma	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Uterus		Dilatation, Nos	
		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 2_008	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Cystic	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Angiectasis	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_009	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Unspecified	Mediastinum Nos	Inflammation, Acute/Chronic	
PRIMARY CAUSE OF DEATH			
	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_010	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
	Medulla	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Angiectasis	
		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Lung		C-Cell Carcinoma, Metastatic	
Mammary gland		Hyperplasia, Cystic	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Spleen		Hemosiderosis	
Thyroid		C-Cell Carcinoma	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_011	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
		Hyperplasia, Nodular	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus		Dilatation, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_012	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla Cortex Nos	Hyperplasia, Focal Hyperplasia, Focal Hypertrophy, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina Crystalline Lens	Atrophy, Nos Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus Acinus	Atrophy, Diffuse Atrophy, Focal	
Parathyroid gland		Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		C-Cell Adenoma Follicular-Cell Carcinoma	
		Hyperplasia, C Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_013	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla Medulla	Degeneration, Lipoid Hyperplasia, Focal Pheochromocytoma Hemorrhage	
Brain		Cataract	
Eye	Crystalline Lens	Degeneration, Nos	
Heart	Myocardium Nos	Nephropathy Abnormal Curvature	
Kidney		Hyperplasia, Nos Necrosis, Coagulative	
Liver	Bile Duct	Hyperplasia, Cystic Atrophy, Diffuse	
Mammary gland		Hyperplasia, C Cell	
Pancreas	Acinus	Leukemia, Mononuclear Cell	
Thyroid		Cyst, Nos	
Unspecified	Multiple Organs Nos		
Uterus	Endometrium		
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_014	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Cortex Nos	Cytoplasmic Change, Eosinophilic Degeneration, Lipoid Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus	Endometrium	Inflammation, Acute	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_015	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Focal	
Stomach	Forestomach	Hyperplasia, Epithelial	
	Glandular Stomach	Inflammation, Nos	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_016	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Hematopoietic	
Kidney		Nephropathy	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Cytoplasmic Vacuolization	
Spleen		Hematopoiesis	
Unspecified	Abdomen	Fibroma	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_017	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla Medulla	Cytoplasmic Vacuolization Hyperplasia, Focal Pheochromocytoma	
Bone marrow		Hyperplasia, Hematopoietic	
Eye	Retina	Atrophy, Nos	
Kidney		Nephropathy	
Liver	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Intermedia	Cyst, Nos	
Stomach	Glandular Stomach	Inflammation, Necrotizing	
Thyroid		Cyst, Follicular Nos	
		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_018	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lung		Congestion, Nos	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_019	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Degeneration, Lipoid Hyperplasia, Focal Hyperplasia, Granulocytic	
Bone marrow		Atrophy, Nos	
Eye	Retina	Degeneration, Nos	
Heart	Myocardium Nos	Nephropathy	
Kidney		Cytoplasmic Change, Basophilic	
Liver		Cytoplasmic Vacuolization	
Lymph node	Mesenteric Lymph Node	Dilatation, Sinus	
Mammary gland		Fibroadenoma	
Ovary		Cyst, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_020	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Large	Colon	Parasitism	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
	Acinus	Atrophy, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
Uterus		Dilatation, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_021	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
		Tubular-Cell Adenoma	
Liver		Cytoplasmic Change, Basophilic	
Lymph node	Mandibular Lymph Node	Inflammation, Granulomatous	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH			
	-		

ANIMAL ID: 2_022	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
	Medulla	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lung		Hematopoiesis	
Pancreas	Acinus	Atrophy, Focal	
Parathyroid gland		Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_023	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Brain		Hemorrhage	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Kidney		Nephropathy	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Thymus		Cyst, Nos	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_024	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Hyperplasia, Nodular	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Nos	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Angiectasis	
	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_025	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Cytoplasmic Vacuolization	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Lung		Congestion, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Spleen		Angiectasis	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH			
	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_026		TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization		
Heart	Myocardium Nos	Degeneration, Nos		
	Myocardium Nos	Necrosis, Coagulative		
Intestine Small	Mesentery Nos	Necrosis, Fat		
Kidney		Nephropathy		
Liver		Cytoplasmic Vacuolization		
	Bile Duct	Hyperplasia, Nos		
		Inflammation, Acute		
Mammary gland	Nipple	Cyst, Epidermal Inclusion		
Pancreas	Acinus	Atrophy, Diffuse		
	Acinus	Atrophy, Focal		
Stomach	Forestomach	Hyperplasia, Epithelial		
	Glandular Stomach	Ulcer, Nos		
Thyroid		Hyperplasia, C Cell		
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell		
Uterus		Dilatation, Nos		
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_027	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Degeneration, Lipoid	
Lung		Inflammation, Nos	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Focal	
Parathyroid gland		Hyperplasia, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_028	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Cortex Nos	Angiectasis Cytoplasmic Change, Eosinophilic Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Angiectasis	
Mammary gland		Hyperplasia, Cystic	
Ovary		Cyst, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Skin	Tail	Inflammation, Nos	
Spleen		Angiectasis	
Thyroid		C-Cell Adenoma Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_029	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_030	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Necrosis, Nos	
Lung		Congestion, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Stomach	Glandular Stomach	Ulcer, Nos	
Thymus		Hemorrhage	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_031		TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS				
Adrenal gland		Cortex Nos Medulla	Degeneration, Lipoid Hyperplasia, Focal Hyperplasia, Reticulum Cell	
Bone marrow			Atrophy, Nos	
Eye		Retina Crystalline Lens	Cataract Nephropathy	
Kidney			Cytoplasmic Change, Basophilic	
Liver			Hyperplasia, Cystic	
Mammary gland			Atrophy, Diffuse	
Pancreas		Acinus	Adenoma, Nos	
Pituitary gland		Anterior Pituitary Anterior Pituitary	Hyperplasia, Chromophobe Cell Focal Cellular Change	
Salivary gland			Hyperplasia, C Cell	
Thyroid			Endometrial Stromal Polyp	
Uterus				
PRIMARY CAUSE OF DEATH		-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 2_032	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos	Cytoplasmic Change, Eosinophilic Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Thyroid		Hyperplasia, C Cell Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_033	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic	
	Medulla	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Fibroadenoma	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_034	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Moribund Sacrifice	HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Hematopoietic	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
		Necrosis, Coagulative	
Pancreas	Acinus	Atrophy, Diffuse	
Spleen		Hematopoiesis	
Stomach	Fundal Gland	Hyperplasia, Nos	
Thyroid		Hyperplasia, C Cell	
Vagina		Sarcoma, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 2_035	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Medulla	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Hyperplasia, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_036	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_037	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Angiectasis	
Bone marrow		Hyperplasia, Reticulum Cell	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thyroid		Hyperplasia, C Cell	
Uterus		Endometrial Stromal Polyp	
	Parovarian	Inflammation, Granulomatous	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_038	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Medulla	Degeneration, Lipoid Hyperplasia, Focal Hyperplasia, Focal	
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Pancreas	Acinus Acinus	Atrophy, Diffuse Atrophy, Focal	
Parathyroid gland		Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Skin	Cheek	Basal-Cell Tumor	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_039	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Degeneration, Lipoid Hyperplasia, Focal	
Eye	Cortex Nos Crystalline Lens Cornea	Necrosis, Coagulative Cataract Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Spleen	Capsule	Hematoma, Nos	
Stomach	Glandular Stomach	Mineralization	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Urinary bladder		Edema, Nos	
Uterus		Dilatation, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_040	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
	Medulla	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Fibroadenoma	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 2_041	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
		Inflammation, Granulomatous	
Lymph node	Mediastinal Lymph Node	Inflammation, Granulomatous	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Salivary gland		Focal Cellular Change	
Thyroid		Hyperplasia, C Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_042	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Angiectasis	
	Cortex Nos	Hyperplasia, Focal	
	Cortex Nos	Hypertrophy, Focal	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Skin	Eyelid Nos	Squamous Cell Carcinoma	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thyroid		Cyst, Follicular Nos	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_043	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Inflammation, Granulomatous	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Angiectasis	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_044	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Mammary gland		Hyperplasia, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_045	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic Cytoplasmic Vacuolization	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Angiectasis	
	Anterior Pituitary	Cyst, Colloid	
Spleen	Capsule	Hematoma, Nos	
Stomach	Glandular Stomach	Inflammation, Nos	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_046	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
	Cortex Nos	Hypertrophy, Focal	
Eye	Retina	Atrophy, Nos	
		Collapse	
		Inflammation, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Hemorrhage, Chronic	
	Bile Duct	Hyperplasia, Nos	
Parathyroid gland		Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_047	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Adrenal gland		Congestion, Nos	
	Cortex Nos	Hyperplasia, Focal	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
		Inflammation, Granulomatous	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Spleen		Hemosiderosis	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH			
	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_048	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Terminal Sacrifice	HISTO:
OBSERVATIONS			
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Islets	Hyperplasia, Focal	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Salivary gland		Focal Cellular Change	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 2_049	TRT#: 2 DOSE: 050.0 MG/KG	SEX: Female DISP: Dosing Accident	DAY ON TEST: HISTO:
OBSERVATIONS			
Lung	Pleural Cavity Nos	Foreign Material, Nos	
	Pleura Nos	Inflammation, Acute Fibrinous	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 2_050	TRT#: 2	SEX: Female	DAY ON TEST:
	DOSE: 050.0 MG/KG	DISP: Natural Death	HISTO:
OBSERVATIONS			
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_001	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos	Cytoplasmic Vacuolization Degeneration, Lipoid Inflammation, Nos	
Eye		Cytoplasmic Vacuolization	
Liver		Inflammation, Nos	
Lung		Cytoplasmic Vacuolization	
Mammary gland		Inflammation, Nos	
Pharynx		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Inflammation, Acute/Chronic	
Spleen		Cyst, Nos	
		Depletion, Lymphoid	
		Hemosiderosis	
Stomach	Forestomach	Hyperplasia, Epithelial	
Unspecified	Cheek	Cyst, Epidermal Inclusion	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_002	TRT#: 3 DOSE: 0	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Jejunum	Leiomyoma	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Cystic	
Pancreas		Inflammation, Acute Focal	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Congestion, Nos	
Uterus		Endometrial Stromal Polyp	
Vagina		Squamous Cell Papilloma	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_003	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Pheochromocytoma	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Angiectasis	
	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		C-Cell Adenoma	
		Cyst, Ultimobranchial	
		Hyperplasia, C Cell	
Unspecified	Mediastinum Nos	Abscess, Chronic	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_004	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Cytoplasmic Change, Eosinophilic Pheochromocytoma	
Bone marrow		Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Spleen		Hemosiderosis	
Stomach	Forestomach Forestomach	Hyperplasia, Epithelial Squamous Cell Papilloma	
Thyroid		Hyperplasia, C Cell	
Unspecified		Cyst, Epidermal Inclusion	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_005	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Mammary gland		Hyperplasia, Cystic	
Ovary		Cyst, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thymus		Cyst, Ultimobranchial	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_006	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
Lung		Inflammation, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Spleen		Depletion, Lymphoid	
		Hemosiderosis	
Thyroid		Hyperplasia, C Cell	
Tongue		Squamous Cell Carcinoma	
Trachea		Inflammation, Acute	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_007	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Focal	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_008	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Pheochromocytoma, Malignant	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lymph node	Renal Lymph Node	Pheochromocytoma, Metastatic	
Pituitary gland	Anterior Pituitary	Angiectasis	
Salivary gland		Atrophy, Focal	
		Focal Cellular Change	
		Inflammation, Chronic Focal	
Spleen		Hemosiderosis	
Thymus		Cyst, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 3_009	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Brain		Carcinoma, Nos, Invasive	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Carcinoma, Nos	
Salivary gland		Atrophy, Focal	
Stomach	Forestomach	Hyperplasia, Epithelial	
Thymus		Fibrosis, Focal	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_010	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Salivary gland		Atrophy, Focal	
		Inflammation, Chronic Focal	
Thyroid		Hyperplasia, C Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_011	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_012	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Medulla	Degeneration, Lipoid Hyperplasia, Focal Hyperplasia, Focal	
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic Focal Cellular Change	
Pancreas	Acinus	Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Thyroid		Hyperplasia, C Cell Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 3_013	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos	Cytoplasmic Change, Eosinophilic Degeneration, Lipoid Nephropathy	
Kidney		Cytoplasmic Change, Basophilic	
Liver		Hyperplasia, Chromophobe Cell	
Pituitary gland	Anterior Pituitary	Cyst, Follicular Nos	
Thyroid		Follicular-Cell Adenoma Hyperplasia, C Cell Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_014	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Inflammation, Granulomatous	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Skeletal muscle		Inflammation, Chronic Focal	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_015	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Eye	Retina	Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver	Bile Duct	Fibrosis	
	Bile Duct	Hyperplasia, Nos	
		Inflammation, Acute/Chronic	
		Dilatation, Ducts	
Mammary gland		Cyst, Nos	
Ovary		Atrophy, Focal	
Pancreas	Acinus	Adenoma, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
	Anterior Pituitary	C-Cell Adenoma	
		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_016	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Brain		Hemorrhage	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_017	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Ovary		Cyst, Nos	
Pancreas		Dilatation, Ducts	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
	Anterior Pituitary	Cyst, Colloid	
Thyroid		Cyst, Follicular Nos	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus		Adenocarcinoma, Nos	
		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_018	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Cytoplasmic Change, Eosinophilic Hyperplasia, Focal	
Bone marrow		Atrophy, Nos	
Eye	Retina Crystalline Lens	Atrophy, Nos Cataract	
Kidney		Nephropathy	
Liver		Abnormal Curvature Cytoplasmic Change, Basophilic	
Pituitary gland	Anterior Pituitary Anterior Pituitary	Adenoma, Nos Hyperplasia, Chromophobe Cell	
Thyroid		Cyst, Follicular Nos Hyperplasia, C Cell Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_019	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Hypertrophy, Focal Pheochromocytoma	
Clitoral gland		Adenoma, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic Focal Cellular Change	
Mammary gland		Fibroadenoma Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary Anterior Pituitary	Adenoma, Nos Cyst, Colloid	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_020	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Medulla Myocardium Nos	Degeneration, Lipoid Hyperplasia, Focal Hyperplasia, Focal Degeneration, Nos Nephropathy Cytoplasmic Change, Basophilic Focal Cellular Change	
Heart Kidney Liver		Hyperplasia, Nos Hemosiderosis Hyperplasia, C Cell	
Spleen Thyroid	Bile Duct		
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_021	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Pancreas	Acinus	Atrophy, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Uterus	Endometrium	Cyst, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_022	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Medulla	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
Lung		Hyperplasia, Alveolar Epithelium	
Mammary gland		Adenocarcinoma, Nos	
Pancreas	Acinus	Atrophy, Focal	
Spleen		Hemosiderosis	
Thymus		Hyperplasia, Epithelial	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_023	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Cortex Nos Medulla	Cytoplasmic Change, Eosinophilic Degeneration, Lipoid Pheochromocytoma	
Bone marrow		Atrophy, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic Focal Cellular Change	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Spleen		Hemosiderosis	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_024	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_025	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Lung		Hyperplasia, Alveolar Epithelium	
Mammary gland		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Uterus		Dilatation, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_026	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Abnormal Curvature	
	Bile Duct	Hyperplasia, Nos	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Cyst, Follicular Nos	
		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_027	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hypertrophy, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Lung		Inflammation, Nos	
Pancreas		Dilatation, Ducts	
Pituitary gland	Intermedia	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_028	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hypertrophy, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Fibroadenoma	
		Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Salivary gland		Focal Cellular Change	
Thyroid		Hyperplasia, C Cell	
Trachea		Inflammation, Acute/Chronic	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_029	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Cystic	
Ovary		Cyst, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_030	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Cytoplasmic Vacuolization Hyperplasia, Focal	
Liver		Cytoplasmic Vacuolization	
Stomach	Forestomach Glandular Stomach	Hyperplasia, Epithelial Ulcer, Nos	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos Multiple Organs Nos	Inflammation, Fibrinous Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_031	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Ovary		Fibrosis	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_032	TRT#: 3 DOSE: 0	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Angiectasis	
	Cortex Nos	Cytoplasmic Vacuolization	
	Cortex Nos	Degeneration, Lipoid	
Heart	Pericardium Nos	Hemorrhage	
	Pericardium Nos	Inflammation, Acute/Chronic	
		Inflammation, Acute/Chronic	
Kidney		Nephropathy	
Liver		Cytoplasmic Vacuolization	
	Bile Duct	Hyperplasia, Nos	
Lung		Inflammation, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Spleen		Hematopoiesis	
Unspecified	Mediastinum Nos	Inflammation, Chronic	
Uterus	Endometrium	Hyperplasia, Cystic	
	Endometrium	Inflammation, Acute	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_033	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
	Anterior Pituitary	Angiectasis	
Salivary gland		Atrophy, Nos	
		Focal Cellular Change	
Skin		Inflammation, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_034	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
	Cortex Nos	Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Pancreas	Acinus	Atrophy, Focal	
Skin	Hair Follicle	Hyperplasia, Nos	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
Uterus	Endometrium	Cyst, Nos	
		Dilatation, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_035	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Ovary		Cyst, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
Uterus		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_036	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos Medulla	Cytoplasmic Change, Eosinophilic Hyperplasia, Focal	
Bone marrow		Hyperplasia, Reticulum Cell	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_037	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Brain	Meninges	Inflammation, Acute/Chronic	
Liver		Cytoplasmic Vacuolization	
Pancreas	Acinus	Atrophy, Diffuse	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_038	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Eye	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Mesentery Nos	Necrosis, Fat	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
Uterus	Endometrium	Papilloma, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_039	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Reticulum Cell	
Heart	Myocardium Nos	Degeneration, Nos	
Intestine Small	Duodenum	Inflammation, Acute/Chronic	
	Jejunum	Inflammation, Granulomatous	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Inflammation, Granulomatous	
Lung		Inflammation, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_040	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Medulla	Hyperplasia, Focal	
Brain		Carcinoma, Nos, Invasive	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Pituitary gland	Anterior Pituitary	Carcinoma, Nos	
Skin		Acanthosis	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_041	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Liver	Bile Duct	Hyperplasia, Nos	
		Necrosis, Coagulative	
Pancreas	Acinus	Atrophy, Diffuse	
	Acinus	Atrophy, Focal	
	Acinus	Atrophy, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Stomach	Glandular Stomach	Inflammation, Nos	
Thyroid		Hyperplasia, C Cell	
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842
Test Type: Long-Term
Route: Gavage
Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
Test Compound: Malonaldehyde, sodium salt
CAS Number: 24382-04-5

Date Report Requested: 10/26/2014
Time Report Requested: 12:01:57
First Dose M/F: NA / NA
Lab: NA

ANIMAL ID: 3_042	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Bone marrow		Hyperplasia, Hematopoietic	
		Hyperplasia, Reticulum Cell	
Eye	Retina	Atrophy, Nos	
	Crystalline Lens	Cataract	
	Cornea	Inflammation, Nos	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
		Inflammation, Granulomatous	
Pancreas	Acinus	Atrophy, Focal	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
Trachea		Inflammation, Acute	
Uterus		Endometrial Stromal Polyp	
	Endometrium	Hyperplasia, Cystic	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_043	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
	Bile Duct	Hyperplasia, Nos	
		Inflammation, Granulomatous	
Mammary gland		Fibroadenoma	
		Hyperplasia, Cystic	
Ovary		Cyst, Nos	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Hyperplasia, C Cell	
		Hyperplasia, Follicular Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_044	TRT#: 3 DOSE: 0	SEX: Female DISP: Natural Death	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hypertrophy, Focal	
Eye	Crystalline Lens	Cataract	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Nos	
Pancreas	Acinus	Atrophy, Diffuse	
Pituitary gland	Anterior Pituitary	Adenoma, Nos	
Thyroid		Follicular-Cell Adenoma	
Unspecified	Multiple Organs Nos	Congestion, Nos	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_045	TRT#: 3 DOSE: 0	SEX: Female DISP: Moribund Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Brain		Astrocytoma	
		Hydrocephalus, Nos	
Heart		Thrombosis, Nos	
Kidney		Nephropathy	
PRIMARY CAUSE OF DEATH		-	

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_046	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Hyperplasia, Focal	
	Cortex Nos	Hypertrophy, Focal	
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
	Bile Duct	Hyperplasia, Nos	
Lymph node	Mesenteric Lymph Node	Dilatation, Sinus	
Pancreas	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Cyst, Colloid	
Thyroid		Hyperplasia, C Cell	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_047	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Hematopoietic	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
Lung		Inflammation, Nos	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thyroid		Hyperplasia, C Cell	
Unspecified		Inflammation, Chronic	
Uterus		Dilatation, Nos	
		Endometrial Stromal Polyp	
	Endometrium	Inflammation, Acute/Chronic	
PRIMARY CAUSE OF DEATH			
-			

* PROTOCOL REQUIRED TISSUE

ANIMAL ID: 3_048	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Heart	Myocardium Nos	Degeneration, Nos	
Kidney		Nephropathy	
Liver		Cytoplasmic Change, Basophilic	
Mammary gland		Hyperplasia, Cystic	
Pancreas	Acinus	Atrophy, Focal	
Pituitary gland	Anterior Pituitary	Hyperplasia, Chromophobe Cell	
Thymus		Cyst, Nos	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
Uterus	Endometrium	Cyst, Nos	
		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 3_049	TRT#: 3 DOSE: 0	SEX: Female DISP: Terminal Sacrifice	DAY ON TEST: HISTO:
OBSERVATIONS			
Adrenal gland	Cortex Nos	Degeneration, Lipoid	
Bone marrow		Hyperplasia, Reticulum Cell	
Heart	Myocardium Nos	Degeneration, Nos	
Liver		Cytoplasmic Change, Basophilic	
		Focal Cellular Change	
Ovary		Cyst, Nos	
Salivary gland		Focal Cellular Change	
Thyroid		C-Cell Adenoma	
		Hyperplasia, C Cell	
Uterus	Endometrium	Cyst, Nos	
		Endometrial Stromal Polyp	
PRIMARY CAUSE OF DEATH	-		

* PROTOCOL REQUIRED TISSUE

Experiment Number: C54842

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Malonaldehyde, sodium salt

CAS Number: 24382-04-5

Date Report Requested: 10/26/2014

Time Report Requested: 12:01:57

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 3_050

TRT#: 3

SEX: Female

DAY ON TEST:

DOSE: 0

DISP: Natural Death

HISTO:

OBSERVATIONS

Adrenal gland

Cortex Nos

Degeneration, Lipoid

Brain

Hemorrhage

Heart

Myocardium Nos

Degeneration, Nos

Liver

Cytoplasmic Vacuolization

Necrosis, Coagulative

Mammary gland

Hyperplasia, Cystic

Pancreas

Acinus

Atrophy, Nos

Pituitary gland

Anterior Pituitary

Adenoma, Nos

Anterior Pituitary

Cyst, Colloid

Unspecified

Multiple Organs Nos

Leukemia, Mononuclear Cell

PRIMARY CAUSE OF DEATH

-

**** END OF REPORT ****

* PROTOCOL REQUIRED TISSUE